

FOLIO NEW TRAIL

The University of Alberta's archaeological team in southern Italy continues its investigation of the Roman farm at San Giovanni di Ruoti. For a summary of the team's latest activities and discoveries, see pages 6 to 9.



As alumni we are spread around the globe but we still maintain contacts with our Alma Mater. What are old classmates doing now and what is their reaction to *Folio/New Trail*? Read pages 17 to 19.



The Faculty of Home Economics is one of The University of Alberta's smaller Faculties. It is, however, a Faculty whose graduates are to be found in many walks of life and in particular in the caring professions. The work of the Faculty has a direct impact on all our lives. See pages 2 to 5.

Assessment of secondary school education in Thailand, children and malnutrition, quantum theory and memory—these are areas in which some University of Alberta scholars are working. Read *Research Reporter* on pages 10 to 13.



Faculty Profile: Home Economics

The Faculty of Home Economics consists of some twenty-five faculty members trained in many basic disciplines such as Sociology, Psychology, Microbiology, Chemistry, Fine Arts, and Education. Their rôle within the Faculty is to apply the principles, skills, and knowledge of their basic discipline to the problems that people encounter in their day-to-day lives—the problems of eating, clothing, sheltering themselves and in finding and developing satisfying and intimate human relationships. Since most people encounter and solve these problems of daily living within the context of the family, Home Economics as a discipline defines itself in terms of the family. It therefore examines food, clothing, textiles, art, housing, management and finance from the standpoint of the needs of individuals living in familial relationships. The subject matter of Home Economics is not unique but the focus of Home Economics on the daily aspects of life is unique.

FOLIO NEW TRAIL

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More and more we are hearing economists, sociologists, and environmentalists with special concerns, emphasizing the rôle which families and individuals play in the destruction/preservation of our environments and our economy. Decisions made daily with regard to the satisfaction of basic needs constantly infringe on mankind's relationships with the human and physical elements of the environment. Home Economics, therefore, claims to study these relationships and provide viable alternatives from which individuals and families can choose

The students in undergraduate programs in Home Economics approach their studies through one of three frameworks: Foods and Nutrition; Clothing and Textiles; Family Studies. The Faculty divides its discipline into these three focuses as well. The Foods and Nutrition Program gives students the opportunity to apply knowledge and skills from the basic sciences of Chemistry, Physiology, Biology, Microbiology to the questions posed by purchase, storage and preparation of food at the consumer level and to the questions of the relationships between food and health through good nutrition. Since a program which trains people for professional rôles in society must have some specific goals in mind, students are able to select course offerings in the Foods and Nutrition Division and courses from other divisions in the Faculty or other Faculties on campus which will prepare them for specific rôles. Many Foods and Nutrition majors are preparing themselves for rôles as Dietitians in hospitals and medical clinics where they work on the medical team using their knowledge of food and nutrition as a therapy technique in the care and cure of certain disease conditions. Others prepare themselves for membership on health service teams where the rôle is largely preventive and educative,



Dean Doris Badir

providing people at risk in the society with information about adequate diet for healthful living. Yet other students find their interests lying in some aspect of the food production chain. Here their special knowledge of consumer needs and consumer behavior as well as their knowledge of the chemistry of food provides them with a special training to work in food processing, food marketing, or as consumer advocates. Other students find their interests in the commercial aspects of food service and frequently find themselves putting together a package of courses and experience which will permit them to seek rôles in food service administration as consultants to food service outlets which are growing in importance as a means for meal satisfaction to millions of Canadians.

The Clothing and Textiles program permits students to apply knowledge gained from the basic disciplines of Chemistry, Physics, Sociology, Psychology, Anthropology, Art and Design to the questions of function, purchase, and construction of clothing and household textiles as well as the relationship between the successful application of these principles and the well-being and comfort of individuals. Students are able to select course packages

from within the Faculty and from other Faculties and departments to prepare themselves for a wide variety of positions in the clothing and home furnishings fields. There are positions in product development and marketing, in textile analysis, in fashion, in home decoration and as consumer advocates. Most recently some of our students with special knowledge in the care and preservation of historic textiles and with a special knowledge of historic costume and clothing construction have been finding positions in the field of museology where the preservation of clothing and household textiles is an important part of the preservation of our social history.

Family Studies students on the other hand use a basic package of knowledge garnered largely from the social sciences to develop special applications in the area of service to families. Students have the opportunity to apply the principles of management to the management of family resources: family problem solving, money management and parenting are just some examples. Graduates can be found working in various helping agencies related to family welfare, (aging, child care, family relationships, families with special needs, rehabilitation, etc.).

Some Home Economics students deliberately try to generalize their programs so they are able to have some knowledge and skill from each of the three programs. These graduates find work in the more traditional home economics fields such as District Home Economists and Home Economics teachers.

Apart from the programs offered at the undergraduate level, the Faculty of Home Economics is heavily engaged in research and in the training of graduate students. Research activities may vary greatly from the examination of the nutritive value of a new strain of a field crop through the

testing of the consumer acceptability of a new food product to the examination of consumer attitudes to certain aspects of the food marketplace. Certain sociological and psychological aspects of clothing practices may be examined; consumer attitudes to textile flammability may be the area of concern; women's fashions over a period of history may be examined to throw light on certain attitudes to women in that same period. Elsewhere in the Faculty, research which tries to document the process of family problem solving; interests in attitudes of family members to retirement; developing of a model of family crisis or examination of the male rôle in courtship/honeymoon is being carried on.

The Faculty is actively engaged at the interface with the community, such as one might expect from a Faculty which states as its underlying philosophy a concern for daily living. Many faculty members work with related community and professional groups, some are frequently involved in speaking to lay groups with interest in their field; many are active in issues in the province which are directly related to home and family life. Through its teaching, research, and service the Faculty of Home Economics is trying to put into action its philosophy of concern for the daily decisions of individuals and families which ultimately widen out to have effect on the larger social and economic issues of our society.

Doris Badir, Dean

Historical Background

The Department of Household Economics was established in 1918 under the Faculty of Arts and Science. Classes were conducted in the basement of the Arts Building and the degree of Bachelor of Science in Household Economics was awarded upon completion of the three-year



Household Economics students in the mid 1920's

program. In 1928, a small change was implemented with the Department becoming the School of Household Economics. During the early years of the School, emphasis was placed on the biological and physical sciences in relation to foods and nutrition.

In conjunction with the Faculty of Education, the School first offered the necessary courses for a master's degree in Household Economics Education in the year 1945. Fifteen years later, post-graduate research programs in nutrition were made available. In 1963 Household Economics became a part of the newly organized Faculty of Science. New programs of study were offered in 1965, and the School was organized into three divisions: Foods and Nutrition, Clothing and Textiles, and General Home Economics. The latter division is now known as Family Studies. The same year saw the opening of a new Household Economics Building. In 1970 the study program was expanded to include five areas of specialization at the graduate level. Students can now pursue Master of Science degrees in Foods, Nutrition, Clothing and Textiles, Family Studies, and Family Life Education. Also in

1970, the School expanded beyond its teaching and research functions with the introduction of a Textile Analysis Service. The new service was housed on the third floor of Printing Services Building and was made available to the general public as well as the campus community.

The School was granted Faculty status in 1976, and the name was changed to the Faculty of Home Economics. The change from "Household" to "Home" was thought to make the name more descriptive of the Faculty's areas of concern.

Up to the early 1970s the Faculty was basically a teaching-oriented school, with very little research taking place. For example, in 1968 only four staff members had PhD degrees. In the past eleven years, however, that number has increased to fifteen, and Home Economics has evolved into a research Faculty. In relation to other Faculties of greater size, Home Economics has been receiving sizeable research grants, in spite of the recent trend toward restraint in spending.

During its history, Home Economics has been induced by Society continually to change its

areas of concern. In 1918 science was of great importance. Later during the twenties and thirties, the desire to raise healthier babies caused nutrition to become very important. During the depression years the demand was to make ends meet, to stretch dollars, food and clothing further. The preserving of foods gained a new interest. Materialism swept the country following the war years causing Household Economics to become consumption-oriented. Materialism continued into the fifties with the advent of "planned obsolescence." Today, sciences are once again foremost in Home Economics. The three major study areas are based on physics, chemistry, and the biological study of traditional topics. Now emphasis is given to educating students to enable them to analyze and solve problems—the problems of living in a technological and dynamically changing world.

Services and Facilities

Although not open for public viewing, the Faculty of Home Economics maintains an historical costume collection. The Collection is used for the instruction of students within the Faculty as well as those in other units, for example, drama. The collection is a valuable reference source for all disciplines concerned with the historical aspects of clothing.

The Faculty's teaching and research facilities are unique on campus. With the exception of office space, almost the entire working area of the Faculty was originally designed as laboratory space. The unusual situation of a shortage of classrooms, however, resulted in several laboratories being converted to classrooms. In addition not only is the equipment density within the Faculty among the highest on campus, but the combination of extensive laboratory space and equipment has also resulted in the Home Economics Building



becoming one of the most expensive to maintain buildings on campus.

The Textile Analysis Service is the Faculty's major service to the University and off-campus community. The Service, located in 315B Printing Services Building, analyzes all types of damaged clothing and household textiles for private and commercial



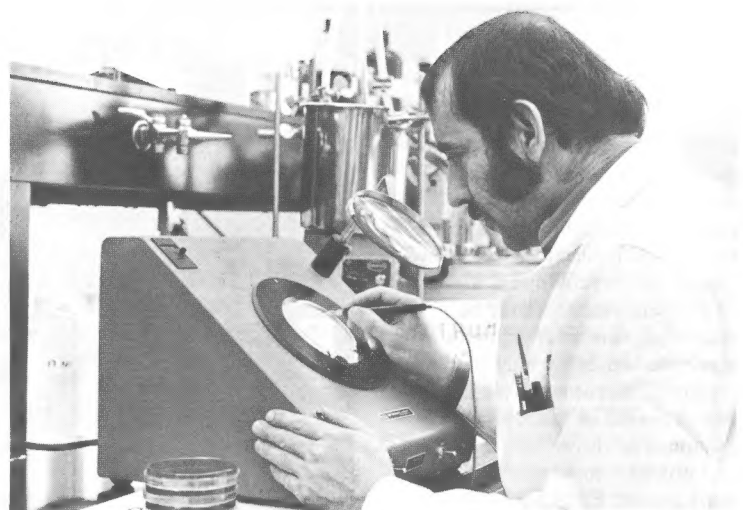
clients. As well, it offers seminars, advice on garment care, and a monthly bulletin. Financial support is received from the provincial government enabling the Service to accommodate requests from across Canada. Within its area of specialization, the Textile Analysis Service is one of the few

organizations in Canada that can offer such an extensive range of technical services.

The Service devotes the larger part of its efforts to discerning the causes of shrinkage, stretching, mechanical damage such as breakage and color changes. Clients often include private citizens and commercial cleaners wishing to determine responsibility for damage. The causes of these damages range from improper cleaning procedures and faulty manufacture to exposure to the sun and insect activity. About twenty percent of damages are the result of improper cleaning. For this reason the Service encourages commercial cleaners to take advantage of its "phone-in" information service when in doubt about the host of synthetic materials on the market.

Job Prospects Upon Graduation

Dr. Ann L. Harvey of the Faculty of Education conducted a survey in 1975 to determine the employment situation of Home Economics graduates from this University. Of those surveyed, 213 were teachers, indicating that this occupation is the most likely job prospect for Home Economics students. Although not in great numbers, however, employment opportunities are to be found elsewhere. Three of the graduates surveyed were interior designers and two were employed in the



consumer affairs area. One graduate was employed in each of the following occupations: nursery school teacher, book store buyer, drug program supervisor, social worker with the mentally retarded, and library assistant. Two of the surveyed graduates appear to have totally abandoned the Home Economics profession, taking up jobs as a geologist and as a police constable.

Although heavily weighted in favor of one occupation, the survey indicates the diverse nature of a degree in Home Economics. This point is emphasized further by the wide range of careers not represented in the survey. Careers not directly mentioned include textiles and fashions, food and nutrition, management and small business.

Appealing positions of a wide range do exist in Alberta. The question that should be asked is, "what are the chances of securing a desired position upon graduation?" Dean Badir believes that many students wrongly expect to walk right into a high paying or glamorous career upon graduating. Students, she believes, must realize that even with a degree most people must begin at the bottom and spend a number of years working their way to the top positions. On the other hand, while very few graduates will be fortunate enough to walk right into the most desirable positions, it is also unlikely that any will find themselves unemployed and have to seek alternative pro-

fessions. Dean Badir offers the encouraging note that the growing needs of society indicate an increasing demand for Home Economists.

Males in a Female Dominated Discipline

In 1978-79, of the 344 full-time intramural students enrolled in the Faculty of Home Economics only one was a man. Dean Badir is concerned by this statistic but views this lack of male students in the Faculty as a problem not just of the school, but of society. Men simply do not receive from society the support that is needed to enter a traditionally female-dominated school. There is no strong movement or segment of society campaigning for the re-evaluation of male rôles, as in the case of women's movements. Women entering male-dominated schools undoubtedly do receive greater encouragement from society as a whole. Enrolment statistics from male- and female-dominated Faculties support these observations and show that although it is now acceptable for women to enter male schools the reverse situation is not true. A man entering a "female" faculty must really know where he is going and be prepared to endure a lot of loneliness. Another factor influencing male enrolment is the career outlook of a degree in Home Economics. It is suggested

that men tend to be more career-oriented than women and are, no doubt, drawn to other Faculties by the greater numbers of career openings.

Contrary-wise, within the discipline of Home Economics itself, the traditional male-female relationship appears to be quite solidly entrenched. Across the country, male domination is firm to the point where Dean Badir is the only female dean of the traditionally female Faculty! It has been observed that top positions tend to be filled by men, and that women faculty members tend to support male staff members more than they do equally talented female staff members.

The views of society will have to evolve to a point where male and female rôles are much more liberal, before any major changes will take place in areas such as these.

Research

Research has been a major function of the Faculty of Home Economics since the early 1970s. Faculty research is aimed at improving the daily lives of all members of our society and promoting harmony between man and nature. Among the areas of concern are psychological and social needs, the physical components of man's environment which contribute to health and development, the education of consumers as to their rôle in the market place, and the improvement and establishment of vital social services. Indeed, the substantial support the Faculty has received in the form of research grants is a reflection of the increasing importance of all these aspects of research.

Research projects over the past few years have been wide ranging, including everything from microbial hazards in foods and textile flammability, to family crisis and the use of marijuana. For example, a continuing study of the problem-solving process of young children has revealed that generally they react well in problem situations and can readily

develop alternatives.

The effects of feeding compounds on the eating quality of livestock is the subject of another study. Evaluations of chickens raised on different feeding compounds indicate that birds raised on soybean meal are generally of higher eating quality than those raised on rapeseed meal. The effects of a variety of additions such as, fish meal, methionine, and choline were not apparent. The project is now centred on the feeding of cattle.

Two other food research projects have investigated feasible methods of increasing the fibre content of foods, and the alkali treatment of proteins.

Yet another research project underway is an investigation into the reaction and attitudes of parents towards mentally retarded children in different societies. The results indicate that our society does not as readily accept this misfortune as do other societies. Comparable studies in India and Alberta suggest that our society is responsible for a lower rate of marriage stability and a lower rate of support for parents of mentally retarded children from family members. The greater support shown in India appears to have reduced the stresses associated with raising such children.

The projects mentioned here are but a few on the Faculty's ambitious list of research topics. The list, although far from complete, is typical of the type of research that is being conducted in Home Economics.

Study Programs

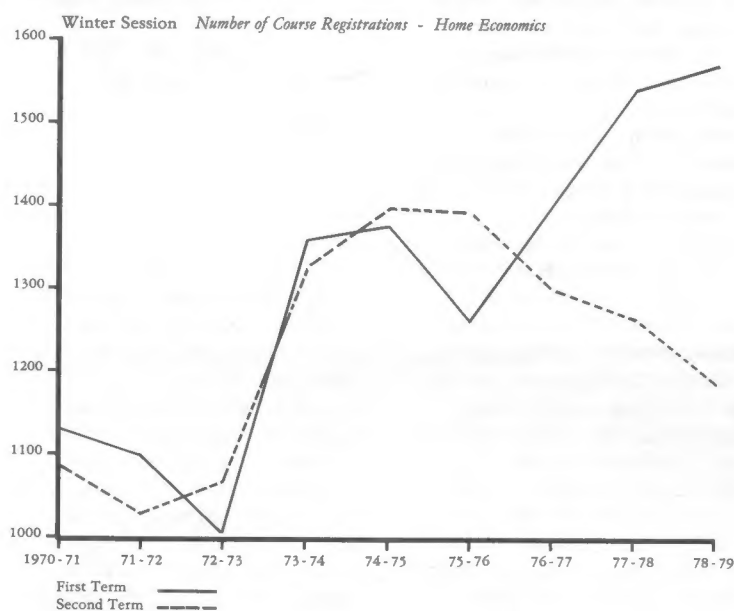
Home Economics offers four-year undergraduate study programs in three main areas. The programs are flexible thus allowing students to generalize or specialize within each program area. The three programs are: Clothing and Textiles, Family Studies, and Foods and Nutrition. Upon completion of an undergraduate program, the student gains a Bachelor of Science degree in the particular area of study.

Admission to the Faculty is in accordance with the standard

University entrance requirements and is not restricted by quotas.

Graduate degrees (Master of Science) are offered in five subject areas: Clothing and Textiles, Family Studies, Family Life Education, Foods, and Nutrition. All

five programs are multidisciplinary in nature but students are encouraged to select an area of specialization upon entry. Research and teaching assistantships requiring twelve hours of work per week are available. □



Courtesy of the Office of Institutional Research and Planning

Statistics:

Full-time intramural winter session graduate students by department of specialization 1978/79:

Food and Nutrition	6
Clothing and Textiles	4
Family Studies	14

Degrees and Diplomas Awarded:

1978 Bachelor of Science	83
Total Bachelor of Science	1,838
Bachelor of Household Economics	27

San Giovanni di Ruoti: An Update

In the Winter 1978 issue of *New Trail* an article appeared detailing the work of The University of Alberta's archaeological team investigating a Roman villa site at San Giovanni di Ruoti in southern Italy. Since the publication of that article, there have been two further seasons of investigation and excavation. In addition, as a result of the interest shown in that excavation, there has been an exhibition of Canadian and American archaeology in Italy on display in Vancouver and at the Provincial Museum here in Edmonton. That exhibition, sponsored not least by alumni of The University of Alberta, was highly successful and, with guides supplied by the University's Department of Classics, drew numerous school groups from across the province before it closed in July of this year.

The Roman villa at San Giovanni di Ruoti lies some 670 metres above sea-level on a slope facing south overlooking a river called the Fiumara di Avigliano twenty-five kilometres north-west of Potenza deep in a heavily wooded area of the Apennine mountains. Although the site had received a brief mention in a recent work, *L'Antica Terra di Ruoti*, by local historian Gerardo Salinardi (1973), it was not until the team from our University began investigation that the farm's real significance became clear. Apart from an apparent lapse from about AD 150 to about AD 350, the site seems to have been occupied continuously from the period of the first Roman emperor Augustus (31 BC-AD 14) to well into the fifth century after Christ. This length of occupation, the remote nature of the site, and the fact that investigation of Roman farms in southern Italy have not often been conducted along the rigorous lines of modern environmental archaeology, have all contributed to enhance the value of the University's work in this region.

In the last three seasons, under



A map showing the location of Ruoti in relation to other sites in southern Italy. Monte Irsi was investigated by a University of Alberta team in 1971-72

the direction of A.M. Small and R.J. Buck, emphasis has been placed on gathering information concerning the farming practises current at San Giovanni di Ruoti in antiquity. Careful sampling of the contents of the numerous floors and occupation layers, both within and outside of the main farm structures, has yielded a large body of evidence for the types of crops grown, the natural flora or plant life, and for the natural and domestic fauna maintained at the farm during the successive periods of occupation. In the 1979 season, for example, conducted from 18 June to 20 July, remains of oysters were found in at least forty-two different contexts. Undoubtedly, oysters (marine gastropods) were imported to San Giovanni di Ruoti to satisfy the culinary tastes of the owners of the villa. In

addition to the remains of these more exotic animals, careful sieving of the various strata also enabled the recovery of even the smallest fragments of bone. The bones thus collected represent most of the principal species of domestic animals (pig—in very large quantities, cow, sheep and goat, goose and duck, dog and cat) and several wild species (for example, bear, deer, rabbit, various rodents, and wild birds).

Carbonized seeds have also been recovered, which include barley, oats, wheat of several varieties, beans, vetch, wine grape, and several field weeds. The collection of this material in 1978 and 1979 was primarily the responsibility of Steve Monckton, a student of Anthrology at the University who is now enrolled in a master's program at the University of Toronto. The

analysis of the organic material recovered is being conducted by several individuals, most notably by Lorenzo Costantini of the University of Rome and other scholars working in Italy and the UK.

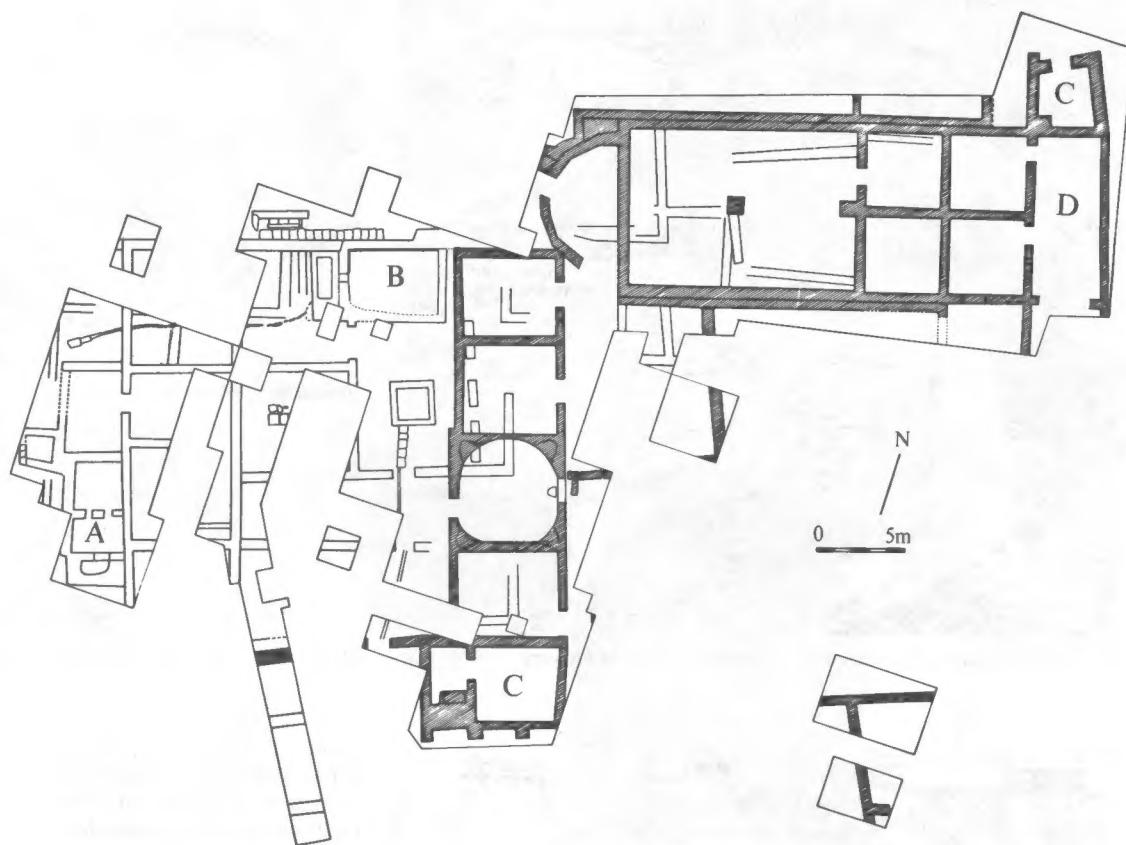
A primary method of gaining information from an archaeological site is excavation. In 1979, as in previous years, members of the University team worked under the direction of Alastair Small, currently on leave from the Department of Classics to the Canadian Academic Centre in Italy. The five site supervisors, Bob and Helen Buck (Bob was also responsible for the team's administration), Jeremy Rossiter and Claude Roberto (PhD students in the Department of Classics), and Chris Simpson (from the Office of Community Relations), arrived on the site each morning with the locally hired workmen. Work began at 6:30 a.m. and continued until 3:30 p.m. and, not to put too fine a point on it, a vast quantity of earth was moved. It seemed that wherever one turned another wall would appear or another set of stratigraphical problems would emerge.

Within the last three years, it has become apparent that the successive structures of the farm at San Giovanni di Ruoti, as they have been excavated, represent a very large and complex establishment. Within the two main phases of settlement, there are several sub-phases which reflect the relative wealth and economic significance of the former inhabitants. For example, in 1978 a bath suite was discovered at the western limits of the villa and was probably associated with the first major period of occupation. In addition, an industrial area comprising interconnected concrete tanks and a sluice and drain has been uncovered. While it was first thought that this industrial complex was intended for the production of wine, this interpretation is now less secure as a

result of the latest season of investigation.

According to a preliminary survey of the pottery by PhD student Joann Freed of the Department of Classics, it seems probable that the buildings of the first major period of settlement were abandoned around the middle of the second century after Christ to be re-used, in some instances, when occupation began again toward the middle of the fourth century. Pottery sherds (ceramic objects are rarely found intact) and their analysis still constitute the most valuable sources of information concerning the chronology of ancient sites throughout Europe. A very large quantity of pottery was recovered and a sizeable part of the house supplied rent-free by the town of Ruoti was taken up with areas for its storage and study. In the preparation of the pottery fragments for analysis, and in the preparation of other objects (for example, the glass, worked bone and ivory, and metallic objects), Mrs. Freed was assisted by local workers as well as by Patty Farina, a PhD student in the Department of Classics, by Zoe Buck, by Jessie Hislop, formerly a student at The University of Alberta and now a Rhodes Scholar at Oxford, and, in drafting, by Rosemary Aicher, formerly of the Royal Ontario Museum.

The second major phase of occupation at San Giovanni di Ruoti appears, on the basis of the pottery evidence, to have lasted from about the middle of the fourth century well into the fifth and possibly into the sixth century after Christ. The span of settlement makes the farm one of the most important sites under investigation in Italy at present; for there are very few domestic, as opposed to ecclesiastic, settlements currently being scrutinized in Italy which appear to have had continuous occupation through the Late Roman, Sub-Roman, and Post-Roman periods. The



San Giovanni di Ruoti as excavated in the last three seasons. The shaded structures belong to the later phase of occupation. (a) the bath suite; (b) the industrial complex; (c) the structures interpreted as towers; (d) the room in which the mosaic pavement was found. (Drafted from the master plan by Rosemary Aicher.)



San Giovanni di Ruoti, looking west. The room in the centre foreground is being covered with sand to protect the mosaic pavement



Dr. R.J. Buck introduces the site to Italian television viewers



Members of the RAI news service from Potenza visiting the site



The central rosette in the mosaic pavement (metric scale)

significance of the site, however, is not recognized merely by the team from our University. With the blessing of the archaeological superintendent of the region, Dr. Elena Lattanzi, the Italian broadcasting authority RAI conducted interviews with the Canadian investigators not only for local but also for national television. Thus, The University of Alberta's efforts in southern Italy gained national coverage on "prime time" television.

Of the structures associated with the later period of occupation, perhaps the most impressive is a very large "hall" subdivided into a series of rooms and orientated with an apse to the west. This "hall," as may be seen on the accompanying schematic diagram, lies to the east of the buildings of the earlier phase. Its foundations, which evidently underwent several periods of re-use, apparently supported a very sizeable structure. The foundations are quite massive (in some places 75cm or more across) and were overlaid by a vast quantity of

concrete and roofing tile rubble.

In the easternmost room of the building, which was terraced to accommodate the slope of the hill on which it is situated, the local workmen gained a reward for their perseverance in the discovery of a mosaic floor. The floor measures some 4x9 m and is in an excellent state of preservation. The mosaic is made up of three panels of floral and geometric polychrome ornament, with the central panel displaying a very fine rosette medallion. The discovery of this large and intact pavement has caused a stir of excitement in archaeological circles in southern Italy with the result that negotiations are currently underway concerning its restoration and preservation.

The mosaic floor, however, is not the only exciting discovery made in the 1979 season in connection with the later period of occupation at San Giovanni di Ruoti. As was mentioned earlier, the foundations of the large "hall" are massive and, in two locations, are so massive that the only reasonable interpretation



In 1979, as in past years, the University's team were hosts to the townsfolk of Ruoti at a traditional "festa." Shown here producing the unrestrained rhythms of southern Italian folkmusic are the Sindaco

of the Comune di Ruoti, Signore Faraone (accordion) and one of the local members of the team, Gerardo Sileo (tambourine)

of their size is that they supported watchtowers of some sort. From an archaeologist's and historian's point of view, therefore, this discovery is most important—there is very little if any evidence of self-sufficient fortified sites in Italy which date from the very end of the period of Roman rule.

For all the thrill of discovery engendered by the mosaic floor and the possible fortifications, however, excavation was not the sole concern of the University's team in 1979. A parallel research topic of the highest significance is the placing of the Roman farm in its geographical, economic, and social contexts. With regard to this in particular, Miss Roberto's major function as a member of the team is to conduct a survey

of the surrounding countryside, recording as many of the Pre-Roman, Roman, and Mediaeval sites as possible. Miss Roberto, who will use this research as the basis of her PhD dissertation, was assisted in 1979 especially by Miss Zoe Buck and Mr. Monckton. The documentation of other sites in the region and their possible interrelationships means that the University's team will be able to build up a historical picture which is wider in its import and significance than a mere record of how some of our ancestors lived at only one site in southern Italy.

The University of Alberta's work in southern Italy is highly regarded and is supported by archaeologists from across Canada, the US, and overseas.

With generous funding from the Social Sciences and Humanities Research Council of Canada, and with the active support of such well-known authorities as John Hayes of the Royal Ontario Museum (an internationally acclaimed expert in the field of Late Roman pottery), our University continues to shed light on a remote period of history and, at the same time, continues to act in a very real sense as Canada's unofficial ambassadors to Italy. In 1980, it is hoped that members of the team will return to Italy to assess the material recovered from the last three seasons of excavation and to continue the survey in the region around the Roman villa at San Giovanni di Ruoti. □



A small (8½ cm tall) bronze religious figure found in 1979

research reporter

The research reporter, primarily designed to attract the interest of persons in the commercial communications media, is included in Folio on a monthly basis because of the interest shown by the University community in its brief reports. Short descriptions of research—any kind of research—should be sent to Research Reporter, Office of Community Relations, 423 Athabasca Hall. All reports are checked with those concerned prior to being printed.

Researchers assess Thai secondary schools

A group of Edmonton educators is currently involved in the first systematic assessment of secondary education in the "Third World."

Director of the Co-operative Assessment Project being carried out with the Ministry of Education in Thailand is Dr. L.R. Gue, a University of Alberta Professor of Educational Administration. Along with Dr. T.A. Blowers, Director of Research for the Edmonton Public School System and W.C. McCarty, project Co-ordinator for the Thai-Alberta training projects, Dr. Gue spent the months of July and August collecting data from a sample of Thailand's rural secondary schools which use a diversified curriculum. Evaluation of the data is now taking place.

Dr. Gue recalls that when the Thai Ministry of Education first approached him to direct the assessment project he was reluctant to take part. The Thais wanted an outside assessment of the schools, but he was hardly a disinterested party. In the early 1960s Thailand, which had, following the British example of completely separate academic and vocational school streams, decided to develop comprehensive high schools with a diversified cur-

riculum. The Thai education officials asked Canada for assistance and that led to The University of Alberta's involvement.

Thailand Project I, operative from 1966 to 1972, saw 161 Thai educators study at the University in a focussed program leading to the graduate diploma of the Faculty of Education; Project II, from September 1975 to June 1977, brought a further 64 Thai school administrators and senior academic teachers to the University; and Project III, a four-month program for 100 Thai school administrators, finished last May. For the first project, Dr. H.T. Coutts, the former Dean of the Faculty of Education, served as Director, and Dr. Gue was Training Director. For the subsequent projects Dr. Gue was the Director.

As a result of his close involvement in the training of the people operating the comprehensive schools, Dr. Gue saw himself as a less than ideal person to head the desired assessment. He agreed to do so only because it was apparent that he was as disinterested a person as the Thais would accept. They are, he says, averse to outside researchers "popping in and out" of their country, and prefer to deal only with persons with whom they have established sufficient rapport to be confident that the best interests of their country will be held uppermost.

Working with Dr. Gue and his fellow Edmontonians were three Thai associates: Dr. Sawat Odompoch, Dr. Wanlop Kansup, and Mrs. Jitsai Padungrat—Dr. Sawat and Mrs. Jitsai hold the diploma of the Faculty of Education, and Dr. Wanlop holds both Master of Education and Doctor of Philosophy degrees from our University.

During July and August the evaluation team visited all parts of Thailand, interviewing principals, teachers, parents, alumni, and a sample of the 3,000 students who completed questionnaires. The responses to numerical ratings on the questionnaires have now been transferred to computer cards and the University's com-



Photaram School, Rajburi, Thailand. A drafting student

puter facilities will be used to help determine the effectiveness of the comprehensive schools and their impact upon the communities they serve.

Dr. Gue says that there is not much time to spare on this final stage of the evaluation. He is scheduled to present the results in Bangkok on 3 December 1979.

Funding for the project is being supplied by Thailand with assistance from the World Bank.

Symposium plans research to benefit children

The Year of the Child is coming to an end, and when it does the flurry of activity that has marked the year in North America will subside. Will there be a lasting impact? Or perhaps the more important question to be asked is "What sorts of activities will have a lasting effect for the benefit of children?"

Within this context, a recent symposium initiated by UNESCO merits attention. In September, UNESCO invited some twenty participants from around the world to Austin, Texas, and this interdisciplinary group of experts on children sat together and discussed the priorities for social science research on children. Comprising pediatricians, psychologists, sociologists and educators, the group worked for four days and produced two sets of recommendations for UNESCO.

One of the persons who participated in the conference was

Dr. J.P. Das, Director of the Centre for the Study of Mental Retardation and Professor of Educational Psychology at The University of Alberta. He says that, of the two major sets of recommendations, the first dealt with a structure to facilitate the study of problems relating to children, and the second listed important problems for study.

The "structure" is to be a network of research centres spread over the world, each centre concentrating on problems relating to its country with research tempered by the expertise of its personnel. But the work will not be done in isolation; the centres within the network will exchange information and, where possible, work on collaborative projects. UNESCO is to facilitate communication among the centres and organize conferences periodically so that developmental specialists can meet and discuss their work. The research programs will be varied, ranging from research on policies for children and their families, methods of delivering health care, and physical and intellectual growth and stimulation of malnourished children, to traditional empirical research on the cognitive functions of children with learning disabilities.

Dr. Das says that the UNESCO group favored a network of research centres rather than of individuals because it was expected that, thereby, a greater stability will be achieved.

The Governors

Report to the Community 1978-79

The University of Alberta



The Governors of The University of Alberta, 1978-79

<i>Chairman</i>	J.L. Schlosser	<i>Graduate Students' Association</i>	B. Mills, President (to March 1979) M. Oleskiw, President (from April 1979)
<i>Statutory members</i>	J.B. Forest, Chancellor H.E. Gunning, President		
<i>Alumni Association</i>	A.M. Arbeau W. Sterling	<i>Public appointees</i>	E.B. Allan M. Andrekson J.E. Barry G. Fryett J.F. Hole (to January 1979) N.A. Lawrence W.T. Pidruchney R.G. Reynolds
<i>Senate</i>	D. Richardson		
<i>Academic staff</i>	B.L. Evans M. Spencer (to January 1979) R.G. Crawford (from January 1979)		
<i>Students' Union</i>	C. Hume, President (to March 1979) D. Olmstead, President (from April 1979) R. Read (to March 1979) R. Rose (from April 1979)		

"It is a duty and function of each university to contribute to the educational and cultural advancement of the people of Alberta at large"

The Universities Act Section 15 (2)



Report of the Chairman



The Board in session

The University of Alberta is an institution almost as old as the province it serves. Alberta became a province in 1905 and it was in the first session of the Legislative Assembly in 1906 that an Act was passed authorizing the establishment of The University of Alberta. Now, as the province and the University approach their 75th anniversaries, it is evident that times have changed—that there has been a virtual revolution in terms of the material culture and prosperity of our province and of the knowledge and wisdom required of all people, not merely to survive in a rapidly changing world, but also to advance and benefit their fellow man.

The University of Alberta, as the senior academic institution in our province, has also adapted itself to the realities of a changing world. On all fronts, whether academic or budgetary, its personnel has expanded its range of vision and knowledge and wisdom. In one important respect, however, there has been no change: the mandate given to the University by the people of Alberta is still to fulfill the educational and cultural aspirations of the people of this province.

Members of The Board of Governors are the Trustees of the University and according to The Universities Act “a Board has the management and control of the University, and of the property, revenue and business and affairs thereof,” in other words, this gives us a position of governance and trust.

When new Board members arrive to take up their trusteeship they are overwhelmed by the size and complexity of this city within a city. Each day some 35,000 people work and play in our campus. We spend over \$150,000,000 each year on salaries, operating maintenance and capital costs. We are impressed by how well the University is operating and by its proud educational heritage.

We stand outside the daily operations, enough apart to have a certain perspective. We are aware, or should be, of the trends and pressures of society which bear upon the University. We must be prepared to adjust programs to available funds.

In the area of funding we must ask the question “How much is enough and how much is too little?” We have found out how much is too little and we are at that point and will be in very difficult straits unless this can change. We must continue to convince the people of Alberta that we are responsible for the funds received and that they are well spent. We must also convince them that a university is different and cannot be treated on the same basis as other public and academic institutions. Because of our teaching and research function we do require a larger percentage of funds just to stay even. We do have genuine and specific needs. Not just for those high profile Faculties such as Medicine, Dentistry, Law, Business Administration and Commerce, and Engineering, but other Faculties and programs that are also very important and necessary. If we do not have adequate funding, there will be less flexibility to change exactly at a time when the ability to respond to change commands a priority.

The Board must look beyond funding. It must protect the values of intellectual fulfillment, critical acclaim, prestige, community service, and social change. It is therefore also necessary for the Board to do its utmost to foster the unique academic atmosphere best suited to the faculty and students. It is our challenge to meet both of these needs, to create the environment for academic excellence within the monetary limits of the public purse.

As the senior post-secondary educational institute in the province, we must continue to strive to justify the trust of the citizens of Alberta. The



Standing (left to right): A.M. Arbeau, D. Richardson, J.E. Barry, B.L. Evans, D. Olmstead, R.G. Reynolds, M. Oleskiw, W. Sterling, R.G. Crawford, E.B. Allan, N.A. Lawrence, R. Rose. Sitting (left to

right): H.E. Gunning, J.L. Schlosser, J.B. Forest, M. Horowitz, M.A. Andrekson. Absent from the photograph are: M. Spencer, C. Hume, R. Read, B. Mills, G. Fryett, J.F. Hole, W.T. Pidruchney.

University, a renewable resource, must attract and keep the best possible people.

The report which follows is devoted to the work of individual Board committees during the past academic year from 1 July 1978 to 30 June 1979. The committees are the most important part of the Board, for within them we attempt to address ourselves to all the diverse functions and operations of the University. Recently, during the chairmanship of my predecessor, Mr. E.A. Geddes, the Board re-organized its committee structure as a part of its continuing efforts to achieve a greater effectiveness in the discharge of its responsibilities. In addition to the Academic Concerns Committee, the Building Committee and the Finance Committee, a Committee on Community Relations was established, essentially to interpret the campus to the community and the community to the campus. Our University is not, and never has been, an "ivory tower" set apart from the rest of Alberta society. There are literally thousands of people throughout Alberta who have been connected with the University either as staff or students. Within the metropolitan area of Edmonton, for example, approximately one of every nine persons (including children) has been or is a participant in the life of The University Alberta. But the statistics are not enough. It is our constant responsibility to bring the campus closer to the community it serves and to improve communications throughout our society. The establishment of the Committee on Community Relations recognizes that fact and the fact that the University has an impact on the life of each Albertan.

Finally, the University as a whole is now faced with a very important, even crucial, task: the evaluation of its priorities. The University Priorities Committee, established by the President at the direction of

the Board has begun the process by the submission of its Final Report. The process of determining our priorities, however, is a complex one, for it touches upon every aspect of the life of our institution. Without doubt, the most important efforts for the immediate future will continue to be the study and implementation of the Report. All constituent groups within the University have had the opportunity to examine the recommendations of the Priorities Committee and respond to them. The decisions that have already been made as a result of this process of self-examination will undoubtedly affect the life of The University of Alberta for many years. The chief objective of The University of Alberta, however, remains unchanged: "the educational and cultural advancement of the people of Alberta."

It would not be possible to operate the University without the dedication of many people. On behalf of the Board of Governors, I would like to thank the staff of the University for their loyalty to the objectives of the University. I would also like to thank many volunteers who serve on the Board of Governors. These Albertans who give so freely of their time dedicate their considerable expertise to the trusteeship of the University.

This year Dr. H.E. Gunning retired as President of the University and Dr. M. Horowitz assumed office on 1 August 1979. I wish to thank Harry Gunning for his outstanding contribution to the University and wish Dr. Horowitz much success in the coming years.

J.L. Schlosser

Report of the President



The year 1978-79 has seen a continuation of the budgetary restraints suffered so far by the University. In this we are not alone, as the inflationary economy throughout the country has affected many post-secondary institutions adversely. With a view to putting our house in order the following steps have either been taken or have been initiated. There is now in place a position-control committee which determines if staff positions in the Faculties can be filled or not. To date about forty positions have had to remain unfilled with the inevitable strain being felt at the departmental level in the increase in the size of classes in some areas. The Board has been actively involved in informal discussions with members of the Legislative Assembly and I am happy to report that government is rapidly gaining a better understanding of the activities conducted by the University for the benefit of the province and of Canada. To this end also, a Director of Community Relations was appointed early in 1978. His office incorporates publications and public relations and has been publicizing some of the research activity on campus as well as seeking ideas and advice from the Faculties in the matter of fund-raising.

The University Priorities Committee, which presented its report in June 1978, has received response from a variety of academic and administrative bodies on campus. Among its recommendations this Committee identified several sensitive areas in the matters of funding for the library system, staff salaries, conditions of appointment, quotas, and reviews of academic units. The University's objectives, as enumerated by the Priorities Committee, remain the same, and that is to maintain the kind of environment in which the University can continue to pursue its objectives of teaching and research in response to the needs and expectations of the public. To this one might add that excellence in all our activities must be pursued vigorously, despite

financial handicaps. And this is why there remain many very difficult problems for the University in establishing its priorities. However, it is imperative that we make such decisions which serve the needs not only of the University, but of society as a whole.

In the matter of enrolment we have seen a slight but predictable decline during the year. This is a tendency which is likely to continue for a number of years and for a number of reasons. The University can go a certain way towards alleviating the problems of reduced numbers by providing the kind of academic atmosphere which will attract students to our courses. Budgetary restraint, of course, makes the problem that much more difficult of solution. However, the response towards the need for a tightening of belts from all levels of the University has been quite encouraging. We are, as a community, becoming more sensitized to the need for careful prediction in organizing our future affairs, for only by this may we maintain the reputation for high quality that has been developed and deserved in the past.

H.E. Gunning

Report of the Academic Concerns Committee

The Academic Concerns Committee was established by the Board of Governors at its meeting on 3 June 1977 and held its first meeting on 22 July of that year. The Committee was made responsible for, among other things, "the review and recommendation of policies governing all matters having academic implications that are within the responsibility of the Board of Governors."

Since its establishment, the work of the Committee can be considered as falling into three main categories: (a) individual personnel decisions and recommendations; (b) academic personnel policies; and (c) other academic matters. With respect to the first, the Committee was delegated authority by the Board to make decisions on the appointment of department Chairmen, the awarding of increments, promotions to the Deans, etc. The Committee was also empowered to make recommendations to the Board on the appointment of new Deans. During the academic year 1978-79, seventeen department Chairmen were either appointed or re-appointed and recommendations were made to the Board concerning the re-appointment of two Deans (Dr. D.F. Cameron of the Faculty of Medicine and Dr. F.B. Wilson of the Faculty of Rehabilitation Medicine) and that one new Dean be appointed (Mr. W.J. Kurney to the Faculty of Library Science). The Committee approved the promotion of one Dean and awarded merit increments to nineteen Deans and to the Librarian to the University. In addition, the Committee considered other individual personnel matters such as requests for study leaves by Deans. It was also recommended that two full-time Associate Vice-President (Academic) positions be established and that an external review of the Office of the Vice-President (Academic) be carried out in 1981-82. The recommendations



were subsequently approved by the Board. Other personnel matters included a recommendation to the Board that "consultation adjustments," which were being paid to several long-service members of staff in the Faculty of Dentistry, be converted to basic salary; the initiation of a study on personnel policies relating to staff employed under provisions of trust fund and research grants; and recommendation to the Board that new regulations for the appointment of University Professors be adopted.

With regard to academic matters, the shift from an emphasis on personnel policies to considerations more directly related to academic concerns continued in 1978-79 as in 1977-78. The Board's own involvement in the attempt to establish University priorities and the Final Report of the Committee on University Priorities stimulated this change in emphasis. The Committee spent a considerable amount of time

considering that report and made a submission to the Board concerning it. In the letter which accompanied that submission, the Committee expressed its concern "... that the University community will wish to take the proposed review system to its complicated extreme, the result of which would be to obfuscate the pressing need to develop a mechanism whereby resources can be re-allocated within the University to accommodate shifts and demands in priorities." It should be noted that, as part of its consideration of the Final Report of the Committee on University Priorities, the Committee held a joint meeting with the Academic Development Committee of the General Faculties Council. The frank exchange of views which took place assisted the Committee in the preparation of its eventual submissions to the Board.

Other complex matters con-

sidered at some length by the Committee involved a proposed increase in admission quotas (and a consequent increase in the staffing and funding) for the Faculty of Business Administration and Commerce and a consideration of perceived difficulties arising from provisions of the *Alberta Historical Resources Act*. Submissions have been made to the appropriate parties within the Government of Alberta concerning both these concerns.

In all, the Academic Concerns Committee was active in a number of important areas in 1978-79. Moreover, it is believed by Committee members that the trend of matters coming before the Committee toward concerns of a more clearly academic nature is one that is consistent with the Committee's terms of reference and with current needs.

M.A. Andrekson

Report of the Building Committee

A new Agriculture-Forestry Centre to cost in the order of \$13,900,000; an energy conservation program which cost \$300,000 to operate in 1978-79 but which realized substantial savings in energy use across campus; expenditures amounting to \$2,923,000 for the maintenance and upgrading of the University's utilities system; smoke detectors placed in University residences at a cost of \$225,000—these are only a few of the topics addressed by the Building Committee of the Board of Governors during 1978-79. In the report which follows, the Building Committee's operations during the past year will be reviewed and further examples of the activities of the Committee will be given.

The Building Committee, like the other Committees of the Board, was particularly active during 1978-79. Indeed, a review of the terms of reference, established for this Committee in April 1977, indicates very clearly the wide range of concerns for which the Committee is responsible. Essentially, the responsibilities of the Building Committee lie in two major areas: (a) the acquisition, management, control, and disposition of University buildings, equipment, and lands; and (b) the control of pedestrian and vehicular traffic on the University lands. More specifically, the Building Committee has the responsibility to review and recommend appropriate action to the Board respecting: (1) the physical and capital implications of proposed academic and administrative plans and policies; (2) short and long range physical plans; (3) annual and long term capital budgets; (4) standards, systems, and procedures for physical planning, design, and construction; (5) individual project proposals and costs; (6) capital alterations; (7) the security of the University property; and (8) the use of land owned or leased by the University.

In fulfilling its obligations,



The new Agriculture-Forestry Centre under construction

therefore, the Building Committee held ten meetings during the period 1 July 1978 to 31 March 1979 and made recommendations to the Board of Governors on a wide variety of topics. An important control system which had been developed during the previous year is a procedure for the approval of all capital projects and for the monitoring of the associated costs once approved. A major component of the procedure is the written justification for the proposed expenditure which is required of any academic or administrative unit submitting a capital project for consideration.

The progress of approved projects is also monitored in a monthly report prepared by the Office of the Vice-President (Planning and Development). This "Capital Projects Authorization and Expenditures Report" provides up-to-date information concerning the state of completion of any capital project and records the

actual or anticipated expenditures necessary for that project's completion.

During the reporting period, the Building Committee addressed a wide number of issues. For example, with regard to the University's properties, the Committee received information concerning mineral and gas rights and approved financial support for the construction of a student residence at the Bamfield Marine Station in British Columbia (the University is a joint member of the Western Canadian Universities Marine Biological Society).

Several proposals for new facilities also came under the scrutiny of the Building Committee. Temporary buildings for which approval was recommended and gained include the Coal Mining Research Building and a building for the University Health Services. In addition, construction contracts were awarded. Chief among these, as was noted earlier

in this report, was the contract to Poole Construction Limited (now PCL) for the construction of a new Agriculture-Forestry Centre for \$13,917,000. In addition, the Committee gained approval for major renovations to the North Power Plant and to this end appointed a Prime Consultant. The Building Committee was closely involved with the upgrading of the utilities systems across campus, and planning funds were approved for an innovative system of heat recovery from the University's waste.

In addition to such activities, the Building Committee also reviewed requests concerning existing facilities on and off campus. The Faculté Saint-Jean received approval for such renovations, as did, for example, the Faculty of Home Economics and the Bio-Safety facilities in the Medical Sciences Building. Indeed, safety and its enhancement at the University played a major part in the



The North Power Plant graduate students' facility

considerations of the Building Committee. Smoke detectors were approved for the University residences, the fire alarm system in the Dentistry-Pharmacy Building was upgraded, and the installation of emergency generators was authorized.

The Building Committee, the responsible agency, also approved the change in nomenclature of two facilities on campus, and one leased facility off campus. Room 5-102 Education North was re-named "The John S. Sandercock Library" in honor of a retired school teacher who has contributed much to school education in this province, and the Education Library was re-named in honor of Herbert T. Coutts, a former Dean of the Faculty of Education. The facility off campus, the Strachan Experimental Block leased from the Government of Alberta, had its name changed to "The University of Alberta Crossley Pine Forest"

in honor of the pioneer work of Albertan forester Desmond Crossley.

All the activities referred to here, however, constitute only a portion of the many topics and projects considered by the Building Committee—topics which ranged from a detailed consideration of the Final Report of the University Priorities Committee to the purchase of a third generation computer-based typesetting facility. In sum, the activities of the Building Committee during the reporting period touched upon the operations of almost every Faculty and administrative department of The University of Alberta.

R.G. Reynolds



Report of the Committee on Community Relations

This Committee was established in July 1977 with the specific objective of heightening the Board's activity in improving relations and communication within the University, with the public, the Government of Alberta, and with other universities and post-secondary institutions. In January 1978, the first major objective of the committee was attained when Dr. Wm. A. Presling was appointed Director of a new Office of Community Relations which incorporates the former Public Relations Office, the University Publications Office, and the Fund Development Office. The coordination of the work of these three was considered essential and their combined efforts are evident, with the following being foremost:

On an experimental basis, the weekly bulletin *Folio* and the quarterly University magazine *New Trail* have been incorporated to provide a better means of communication with our Alumni. Although *Folio* continues to be issued weekly with a circulation in the local community of approximately 8,200, five special issues have been issued which are intended, specifically, to enhance public and alumni awareness of the University and its operations. For example, the June edition of *Folio/New Trail* contained data on the alumni survey conducted by the University's Office of Institutional Research and Planning in early 1978. This larger *Folio/New Trail* has a national and international circulation of approximately 65,000. In addition, the format of *Folio* has been substantially revised to make the magazine more attractive to its readers.

An annual *Report to the Community* (of which this is the first) has been established to promote a better understanding of the functions and responsibilities of the Governors of The University of Alberta.

Knowledge of the research



"Mayor" Chuck Moser and athletes at the Lister Hall "Village" during the XI Commonwealth Games

activities conducted at the University has been augmented by the production of a new monthly bulletin, *Research Reporter*. Although the bulletin is aimed specifically at the news media, *Research Reporter* has generated considerable interest on campus by giving faculty an insight to research carried out in fields other than their own and has also had positive results by giving the lay public greater insight into the University's research activities.

Through the active involvement of members of the Board, faculty and staff (both individually and through participating organizations and agencies) the University's contribution to the XI Commonwealth Games (1978) in Edmonton was made particularly noteworthy. Perhaps the most significant involvement of the University was the use of Lister Hall residential complex as the athletes' Village. The Village was regarded by all who stayed there to be

second to none among the facilities provided for major international competitions—a success that may be attributed largely to the efforts of "Mayor" Chuck Moser then of the Faculty of Physical Education and Recreation and now on leave of absence to the Minister of Transportation.

The Committee on Community Relations has been equally active in several other areas. During the last year, it has initiated a program of University tours on an advertised, organized basis with, for example, some 6,300 visitors to the University Farm during the period April-June 1979; encouraged and participated in the re-establishment of Varsity Guest Weekend; and has devoted considerable attention to the subject of fund raising to reinforce existing sources of University revenue. In addition, the Committee involved Board members in a number of fruitful sessions with Members of the provincial



A graduate student guides children through an exhibition at the Provincial Museum

Legislative Assembly, activities which, it is anticipated, will be continued in the future.

Since the year 1982-83 will mark the 75th anniversary of regularly scheduled classes at The University of Alberta, a new committee has been struck under the aegis of the Committee on Community Relations to help prepare for this event. The Jubilee will be a significant landmark in the life of this institution and it is expected that representatives of all the constituent groups on campus will contribute greatly to the success of the program, thus promoting greater public awareness of the important rôle our University plays in Alberta society.

N.A. Lawrence

Report of the Finance Committee

During the period 1 April 1978 to 31 March 1979 the Board Finance Committee met on fifteen occasions. The Finance Committee's terms of reference state, *inter alia*, that it is "responsible to the Board of Governors for the review and recommendation of policies governing the financial affairs of the University." More specifically, the Finance Committee's responsibilities include recommending to the Board on the following matters: (1) the annual guidelines and procedures governing the preparation of the operating budget; (2) preliminary and final operating budgets for the University, and future impact of capital budget proposals thereon; (3) approval of the audited financial statements; (4) tuition and other fees; (5) changes to the approved Operating Budget; (6) investment policies and proposals, investment advisors, and investment performance; and (7) approval of signing authorities respecting all banking, safekeeping, and investment transactions, and the delegation thereof.

In addition, the Board has delegated to the Finance Committee responsibility for the following matters:

- (1) *Budget Change Requests*: to approve the transfer or reallocation of monies budgeted and approved by the Board, up to an individual amount of \$100,000 in any fiscal year for any single budget code.
- (2) *Audit*: through the Audit Sub-Committee, to approve policies and procedures in relation to the University's financial statements, and to consult with the University's auditors in this respect.
- (3) *Depreciation; inventories*: to establish and review policies relating to depreciation of University property, inventories maintained on hand, and matters of a similar nature.
- (4) *Sub-Delegation*: to appoint such sub-committees, and to delegate to them, or to the President, such of its powers, duties, and functions, including the power of sub-delegation, as it deems necessary.
- (5) *Procedures*: to establish and review such procedures as the committee deems necessary to ensure the effective implementation of and adherence to approved policies.

For purposes of this Report, the activities of the Finance Committee are separated into four general areas: *Operating Budget; Investments; Audit; and Miscellaneous*. The final category is, of necessity, somewhat arbitrary and includes items not directly related to the other three categories.

Operating Budget

At its meeting of 14 February 1978 the Finance Committee considered and recommended Board approval of the 1978-79 Preliminary Operating Budget, providing for total net expenditures of \$126,995,000, and revenues of \$125,995,000.

Among the items considered by the Finance Committee during the 1978-79 fiscal year, which were related to the Operating Budget, were the following (*note*: "Approval" means that the item was recommended for approval by the Board):

1. Approval of a regulation

relating to the differential fees charged to visa students, effective 1 May 1978: "In no case will the differential fees charged a visa student in the six-month period 1 July to 31 December or 1 January to 30 June, exceed the single-term full-time differential fee."

2. Approval of an increase of \$1.00 per year, from \$16.00 to \$17.00, in the University Athletic Board Fee, as a condition of registration for all full-time undergraduate and graduate students, commencing with the 1978-79 Winter Session.

3. Approval of the charging of the following items against the University's Operating Surplus account: (a) the accumulated deficit, to 31 March 1978, of the Supplementary Programs (University Athletic Board) component of the Department of Athletic Services, in the amount of \$101,555; (b) the accumulated deficit of the Department of Housing and Food

Services for fiscal 1976-77 and 1977-78, in the amounts of \$14,623 and \$234,003 respectively.

4. Approval of an increase of \$1.00 per year in the Students' Union fee as a condition of registration for all full-time undergraduate students, with effect from 1 September 1978.

5. Approval of the discontinuation of fee discounts as an incentive for early registration in Spring Session and Summer Session, commencing with the 1979 Spring Session.

6. Authorized the Vice-President (Finance and Administration) to engage a consulting firm to proceed with the first two phases of a Student Housing Study, at an estimated cost not exceeding \$25,000 (subsequently adjusted to \$35,000).

7. Approval of the "Operating Budget Principles and Policies, 1979-80," and of a report on the preparation of the 1978-79 Operat-



ing Budget; and, subsequently, the consideration and approval of the 1979-80 Preliminary Operating Budget providing for total net expenditures of \$136,800,000 and revenues of \$136,800,000.

8. Approval of an increase in Graduate Students' Association membership fees as a condition of registration for all students registered in the Faculty of Graduate Studies and Research, with effect from 1 September 1979, as follows: (a) Full-time students: to \$34.00 annually from \$31.00; (b) Part-time students: to \$23.00 annually from \$21.00.

9. Approval of the establishment of the Francis G. Winspear Chair in Professional Accounting.

10. Approval of the following grants (all for fiscal 1978-79, except where noted):

(a) National Association of Women and the Law	\$ 200
(b) Students' Union general grants (Freshman Orientation Seminars, Student Radio CJSR, <i>The Gateway</i> , Student HELP, Housing Registry, Art Gallery)	37,945
(c) Varsity Guest Weekend (Students' Union)	12,000
(d) Students' Union Building Caretaking Grant	261,000
(e) University of Alberta Mixed Chorus	1,000
(f) Russian Language Studies Program	500
(g) English Language Program (Faculty of Extension)	20,000
(h) English Language Program (Faculty of Extension, 1979-80)	25,000
(i) Golden Key Emergency Fund	2,000
(j) Edmonton Hire-A-Student	1,200
Total	\$360,845

Investments

On a routine basis the Finance Committee, at its regular meetings, reviews the performance of investments involving the Killam Funds, the Consolidated Pool, and the Endowment Pool, as well as the University's short-term portfolio.

Among the investment matters considered by the Finance Committee during 1978-79 were the following ("approval" means

recommended to the Board for approval):

1. A review of the performance of the University's investment counsellors, Jarislowsky, Fraser and Company.

2. A review of the University's investment performance (Killam Funds, Consolidated Pool) in comparison with other investment portfolios, as prepared by Wood Gundy.

5. Approval of the establishment of the Endowment Pool, and of its "Statement of Policy," administration guidelines, and other related matters. The Pool came into existence on 1 September 1978.

6. Approval of the appointment of Jarislowsky, Fraser and Company to manage the equity and bond portion of the Endowment Pool. The University's administration is responsible for the Endowment Pool's mortgage, real estate, and short-term investments.

7. Approval of a Social Responsibility Policy relating to the University's investment decisions.

Audit

The Audit Committee, a subcommittee of the Finance Committee, met once during the year. Representatives from the Office of the Auditor General, the Comptroller's Office and the Director, Internal Audit, were in attendance. The Committee reviewed the University's financial statements for the year ended 31 March 1978, and also the draft management letter submitted by the Auditor General. The timing of the Management audits to be undertaken by the Auditor General's office was discussed and it was subsequently decided that the Purchasing Department and the Office of Administrative Systems would be the first units to be audited.

Miscellaneous

The Finance Committee dealt with many items which can be considered "miscellaneous" in that

they did not impinge directly on either the Operating Budget or Investments. In some instances they related to the University's ancillary operations, which operate under a break-even mandate; in others they had financial implications for other than the Operating Budget; or such implications as did exist were minimal or long-term and indeterminate. Among the matters dealt with were the following ("approval" means recommended to the Board for approval):

1. Various reports on the Commonwealth Games Village (Lister Hall Complex), relating to contracts, preparations, contingencies, and other matters.

2. A report on the Escheated Estates Fund, and discussions with the Administrator of Student Awards, who is responsible for the Fund.

3. Approval of the establishment of the Bamfield Marine Station Scholarship for undergraduate students, payable from the Escheated Estates Fund, for an initial period of five years. One scholarship will be awarded annually; its value will be \$500.

4. Approval of a grant of \$5,000 from the capitalized portion of the Escheated Estates Fund, to assist in capitalizing the F.T. Jenner Memorial Prize in Canadian Studies.

5. Approval of a proposed expansion of the baccalaureate program for Registered Nurses, subject to funding through a special, or conditional, grant provided by Advanced Education and Manpower.

6. Approval of an application to Advanced Education and Manpower for special funding for a program relating to the preparation of teachers of the hearing impaired. If approved, the program would be funded in the same manner as the proposed expansion of the Nursing program referred to in 5 (above).

7. Consideration of proposed responses to recommendations of the University Priorities Committee, and the formulation of a statement relating to the responses.

8. Approval of the continuation of the Exchange Graduate Student Program, retroactively to 1 July 1978, until such time as a recommendation is made to terminate it. The Program is operated by universities in the four western provinces, and permits graduate students to take courses related to their program at another university, when such courses are not offered at their home university, without paying tuition and other fees at the other university.

9. Consideration of a report on computer security at The University of Alberta.

10. Approval of the acquisition of an Amdahl 470 V/7 computer, to be funded from the Reserve which was established by Computing Services for major equipment purchases.

11. Approval of 1979-80 rates for Housing and Food Services operations (Lister Hall, HUB, Michener Park, Pembina Hall, and Faculté Saint-Jean); approval of policy and regulation changes for the Lister Hall Complex; and discussion of problems facing Housing and Food Services.

E.B. Allan

Committee Memberships

Academic Concerns Committee

Mrs. Andrekson (Chairman)
Mr. Schlosser (ex officio)
Dr. Gunning (ex officio)
Mr. Mills
Mr. Pidruchney
In regular attendance (non-voting)
Dr. M. Horowitz, Vice-President
(Academic)
Secretary
Mr. B.H. McDonald, Associate
Vice-President (Academic
Administration)

Building Committee

Mr. Reynolds (Chairman)
Mr. Schlosser (ex officio)
Dr. Gunning (ex officio)
Mr. Hole
Mr. Read
Dr. Spencer
Dr. Crawford
Mr. Sterling
In regular attendance (non-voting)
Mr. R.E. Phillips, Vice-President
(Planning and Development)
Secretary
Mr. E.R. Shedden, Assistant to
the Vice-President (Planning
and Development)

Committee on Community Relations

Mr. Lawrence (Chairman)
Mr. Schlosser (ex officio)
Dr. Gunning (ex officio)
Mrs. Forest
Mr. Arbeau
Mr. Fryett
Dr. Richardson
In regular attendance (non-voting)
Dr. W.A. Preshing, Director,
Office of Community Relations
Secretary
Dr. W.A. Preshing

Finance Committee

Mr. Allan (Chairman)
Mr. Schlosser (ex officio)
Dr. Gunning (ex officio)
Mr. Barry
Dr. Evans
Miss Hume
Mr. Lawrence
In regular attendance (non-voting)
Professor L.C. Leitch, Vice-
President (Finance and
Administration)
Secretary
Mr. D. Norwood, Assistant to the
Vice-President (Finance and
Administration)

Executive Committee

Mr. Schlosser (Chairman)
Mrs. Forest
Dr. Gunning
Mrs. Andrekson (Academic
Concerns)
Mr. Reynolds (Building)
Mr. Lawrence (Community
Relations)
Mr. Allan (Finance)
Secretary
Mr. J. Nicol, Secretary to the
Governors

Other Board Appointments

Advisory Committee on the Commonwealth Games

Mr. Reynolds

Graduate Student Assistance

Mr. Allan

The University of Alberta Senate

Mrs. Andrekson
Mr. Pidruchney

The University of Alberta Foundation

Chairman of the Board (ex officio)
President (ex officio)

3AU Fund Executive

Chairman of the Board (ex officio)

Full-time enrolment by level of program and by Faculty, 1978-79 and 1977-78

Faculty	Undergraduate students		Graduate students		Total	
	1978-79	1977-78	1978-79	1977-78	1978-79	1977-78
Agriculture and Forestry	686	771	138	161	824	932
Arts	2,891	2,764	456	485	3,347	3,249
Business Administration and Commerce	1,382	1,533	118	110	1,500	1,643
Dental Hygiene	76	73			76	73
Dentistry	195	201	2	3	197	204
Education	3,567	4,031	380	350	3,947	4,381
Engineering	1,658	1,620	180	159	1,838	1,779
Faculté Saint-Jean	159	167			159	167
Home Economics	344	351	25	20	363	371
Law	487	503	7	5	494	508
Library Science			64	61	64	61
Medical Laboratory Science	96	93			96	93
Medicine	765	775	103	100	868	875
Nursing	307	326	9	4	316	330
Pharmacy and Pharmaceutical Sciences	389	388	13	13	402	401
Physical Education	629	706	64	76	693	782
Rehabilitation Medicine	299	276			299	276
Science	2,827	2,883	488	483	3,275	3,366
Total	16,757	17,461	2,007	2,030	18,764	19,491

Enrolment, 1969-70 to 1978-79

Year	Full-time students			Part-time students			Total Enrolment
	Under-graduate	Graduate	Total	Under-graduate	Graduate	Total	
1969-70	15,266	2,088	17,354	6,586	853	7,439	24,793
1970-71	16,187	2,158	18,345	7,416	1,090	8,506	26,851
1971-72	16,152	2,091	18,243	7,394	1,112	8,506	26,749
1972-73	15,753	2,004	17,757	8,184	1,169	9,353	27,110
1973-74	16,657	1,867	18,524	8,533	1,289	9,822	28,346
1974-75	17,305	1,850	19,155	8,763	1,377	10,140	29,295
1975-76	17,824	1,912	19,736	9,524	1,429	10,953	30,689
1976-77	17,951	2,068	20,019	9,694	1,458	11,152	31,171
1977-78	17,461	2,030	19,491	9,825	1,450	11,275	30,766
1978-79	16,757	2,007	18,764	8,998	1,532	10,530	29,294

Courses Taught

	1978-79		1977-78	
	First Term	Second Term	First Term	Second Term
<i>Winter Session</i>				
Courses Numbered:				
100-299	261	256	258	252
300-499	1,274	1,316	1,249	1,296
500-599	450	477	453	473
600 and up	218	236	209	221
Total	2,203	2,285	2,169	2,242
<i>Evening Credit Extension</i>	68		79	
	800		723	
	<i>Spring and Summer 1979</i>		<i>Spring and Summer 1978</i>	
<i>Spring Session</i>	258		249	
<i>Summer Session</i>	237		237	

Since the Faculty of Medicine offers courses on a three-phase program of study these have been excluded from this table.

Balance Sheet as at 31 March, 1979

(thousands of dollars)

Assets

<i>Operating Funds</i>	<i>1979</i>	<i>1978</i>
Current		
Cash	\$ 120	\$ 121
Short-term deposits	31,286	26,117
Accounts receivable	3,378	3,039
Accrued interest	648	426
Inventories	2,504	2,168
Prepaid expenses	172	156
Due from trust funds	2,155	2,405
Total current assets	40,263	34,432
Other		
Long-term deposits	2,000	2,000
Livestock	99	91
	<u>42,362</u>	<u>36,523</u>
Capital Funds		
Loan receivable, Students' Union	3,022	3,098
Fixed assets		
Land, buildings and plant	279,761	267,214
Furnishings and equipment	117,755	107,568
Due from operating funds	16,497	11,699
	<u>417,035</u>	<u>389,579</u>
Trust Funds		
Current		
Cash	196	178
Short-term deposits	16,431	11,244
Grants receivable	1,611	1,477
Loans receivable	282	211
Accrued interest	288	128
Total current assets	18,808	13,238
Investments	20,312	22,228
	<u>\$ 39,120</u>	<u>\$ 35,466</u>
Total	\$ 498,517	\$ 461,568

Liabilities

<i>Operating Funds</i>	<i>1979</i>	<i>1978</i>
Current		
Bank and Treasury Branch indebtedness	\$ 5,082	\$ 6,116
Accounts payable and accrued liabilities	9,556	7,596
Holdbacks payable	593	371
Accrued interest	459	445
Deferred revenue	485	474
Refundable deposits	164	99
Due to capital funds	16,497	11,699
Total current liabilities	32,836	26,800
Reserves	7,121	7,618
Operating surplus	2,405	2,105
	<u>42,362</u>	<u>36,523</u>
Capital Funds		
Long-term debt	24,890	25,122
Capital provided by the Province of Alberta	308,689	288,731
Capital provided by others	83,456	75,726
	<u>417,035</u>	<u>389,579</u>
Trust Funds		
Current		
Due to brokers	99	—
Due to operating funds	2,155	2,405
Total current liabilities	2,254	2,405
Trusts	36,866	33,061
	<u>39,120</u>	<u>35,466</u>
Total	\$ 498,517	\$ 461,568

Comparative statement of operating expenditures

<i>Items of expenditures</i>	<i>1978-79</i>	<i>1977-78</i>	<i>1976-77</i>	<i>1975-76</i>	<i>1974-75</i>	<i>1973-74</i>
Faculties	\$ 91,947,323	\$ 85,037,454	\$ 76,088,863	\$ 66,871,589	\$ 56,872,910	\$ 51,235,470
Indirect instructional	875,411	942,318	939,776	666,981	573,990	768,268
Plant maintenance	15,237,870	15,343,305	14,028,341	11,589,545	8,944,037	7,776,522
Library	8,267,208	7,859,099	7,336,651	6,544,826	5,380,394	4,802,298
Student services	688,419	598,316	549,534	568,683	598,479	573,558
Administration	9,501,419	9,039,944	7,832,003	6,984,156	5,830,629	5,071,406
Public service	1,473,651	1,435,657	1,250,546	1,149,263	1,015,976	864,390
Operating departments	794,543	(359,429)	(629,069)	(119,848)	150,236	(407,947)
Total	\$128,785,844	\$119,896,664	\$107,396,645	\$ 94,255,195	\$ 79,366,651	\$ 70,683,965

Library data for the year ending 31 March 1978

<i>The Collection</i>	<u>1978-1979</u>	<u>1977-1978</u>
Volumes in Collection at end of year	1,961,451	1,871,190
Volumes acquired during the year	92,441	88,094
Volumes withdrawn during the year	2,180	—
Periodical and newspaper titles	14,277	15,169
Value of acquisitions acquired during year:		
Books	\$1,691,861	\$1,399,921
Periodicals	902,522	766,684
Binding	155,096	165,688
	<u>\$2,749,479</u>	<u>\$2,332,293</u>
Volumes circulated during year	1,051,720	1,022,736

Student aid provided by the University

<i>Amounts paid to students through the University operating budget</i>	<u>1978-79</u>	<u>1977-78</u>
As grants, scholarships, bursaries, remission of fees, etc.	\$ 386,923	\$ 334,891
For services performed:		
To graduate teaching assistants	\$3,312,679	\$3,421,194
To graduate research or graduate service assistants	1,853,455	1,820,193
Other	868,716	795,902
	<u>6,034,850</u>	<u>6,037,289</u>
Total financial assistance	<u>\$6,421,773</u>	<u>\$6,372,180</u>

In addition to the amounts shown above, other scholarships, bursaries, grants, prizes, and awards are provided from special trust funds.

Physical Facilities

<i>Amount of building space</i>	<u>1978-79</u>	<i>Gross space:</i>	<u>1978-79</u>
<i>Assignable:</i>		In square metres	
In square metres		Non-residential	
Non-residential		Owned	585,187
Owned	339,957	Rented	3,391
Rented	2,636	Total non-residential	588,578
Total non-residential	342,593	Residential and other	182,384
Residential and other	116,580	Total square metres	<u>770,962</u>
Total square metres	<u>459,173</u>	In square metres per full-time daytime student	
In square metres per full-time daytime student		Non-residential	
Non-residential		Owned	31.2
Owned	18.1	Rented	0.2
Rented	0.2	Total non-residential	31.4
Total non-residential	18.3	Residential and other	9.7
Residential and other	6.2	Total square metres per student	<u>41.1</u>
Total square metres per student	<u>24.5</u>	<i>University acreage:</i>	
		Land owned in Edmonton	
		Main campus	213.09
		Garneau addition	213.51
		Michener Park	41.88
		Edmonton Research Station	640.09
		Faculté Saint-Jean	15.36
		Land outside Edmonton (used mainly for agricultural research)	
		Owned by the University	573.05
		Leased by the University	8,285.06
		Total acreage	<u>9,982.04</u>



Mae Tang School, Chiangmai, Thailand. An agricultural class



The industrial arts shop at Mai Tang School. Below: Sriyabai School, Chumporn. The new academic buildings

Dr. Das was one of the two Canadian experts invited to the UNESCO symposium. He took with him a position paper which highlighted the research on children, both normal and handicapped, that has been carried out at the Centre for the Study of Mental Retardation during the past several years. He suggested that The University of Alberta, mainly through its interdisciplinary Centre, will participate in the UNESCO network. Such participation, he says, will be especially vigorous after the establishment of the Developmental Disabilities Centre which is being planned for the University.

Once the proposal for the network is approved by the General Assembly of the United Nations, the network will seek formal recognition and permanent funding from UNESCO; in the interim, funds are available for developing the facilities for communication between participating centre.

The major topics of research suggested by the participants at the symposium highlight some of universal concerns related to children and their families, says Dr. Das.

The influence of nutrition, especially of malnutrition, on child development was one of these major areas identified as needing better research. Dr. Das says that we should know the effects of malnutrition and hunger on the cognitive development of

children as well as on their emotions and personality. He says that participants from the poorer countries such as India, Morocco, and Nigeria, as well as from the more affluent countries such as the USA and Canada, were vitally concerned with the effects of nutrition.

Dr. Das reports that another common concern shared by almost all countries, and highlighted by the participants from the Soviet Union and the United States, was providing children with opportunities for purposeful activities involving interactions with adults who care. Related to this problem is the need to develop ways and means by which to rationalize the contexts in which children and their caregivers operate—the social and physical conditions under which they interact. One such context is the working mother and her children. What are the means for rationalizing the need for bringing up children and the professional demands on the mother?

Sex rôles and the biological and social differences between male and female children across the world, the focal rôle of the family, and the special needs of disadvantaged and developmentally disabled children emerged as some of the other important areas of investigation which are sure to benefit from the establishment of a network linking centres for research on children, says Dr. Das. He looks forward



to taking part and welcomes the opportunity of involving other developmental specialists at The University of Alberta who are interested in the proposed network.

Knowledge Basic to Science Being Sought

When C.I.J.M. Stuart talks of his research at The University of Alberta it is with a quiet exactness eclipsing yet not totally obscuring an underlying excitement.

As he carefully explains the basis of the work in which he is involved, one catches something of the excitement. It would seem that Professor Stuart and his fellow researchers in the Centre for Quantum Field Theory and Complex Systems are not, as one might expect, involved in

some obscure work in a rather remote branch of science. Rather, they are addressing the mystery which lies at the very heart of all science: the emergence of order. Indeed, in so doing, they are attempting to break down barriers created by the development of science into distinct disciplines.

Nature is not aware of our distinctions, say Professor Stuart. "Is it reasonable to assume that the emergence of order arises differently in biology than in physics? Than in chemistry?"

In addition to Professor Stuart, involved in the work of the Centre are Dr. Hiroomi Umezawa, Killam Memorial Professor of Physics. Dr. Yasushi Takahashi of the Theoretical Physics Institute; Dr. S.B. Woods, a Professor of Physics



Students at the Mae Tang School in the practical arts sewing class



A Practical Arts Class at Sriyabai School. Below: An automotives class at Sriyabai School

who is also Associate Dean of Graduate Studies and research; Dr. N.R. Thomas, a physiologist from the Faculty of Dentistry; Dr. K.B. Newbound, Professor of Physics and Dean of the Faculty of Science; and Ann Crawford, a research associate with the centre.

Professor Stuart begins an explanation of the Centre's continuing focus with the observation that in nature we see disordered states of affairs become ordered without outside intervention. What is it, then, that accounts for this spontaneous emergence of order? Although physics is built on the notion of order, there is no physical theory as to how it arises, he says. In the biological realm, Professor Stuart adds, one is immediately struck by the fact of biological organization—every plant and animal is an example of the orderliness of biology—but there is no theory of biological order. Furthermore, nothing known about either physical or biological order rules against there being one theory to account for both.

This, then, was a perspective in which it seemed that biological and physical science had a common endeavor: the common problem of the creation and maintenance of order. In 1975, it drew Professors Stuart, Umezawa, Takahashi, and Thomas together to work under the umbrella of the Centre. Aware of the danger of becoming

mired in purely philosophical discussion, the researchers found it very important to translate their basic concern into strictly empirical terms. "Memory" was the chosen vehicle.

Professor Stuart explains why. He says that what is known about the brain amounts to an enormous body of facts roughly held together by what might be called the classical theory of brain activity, the neuron doctrine, which holds that all of the information transactions of the brain are due solely to the excitation and subsequent conduction of discrete action potentials along pathways made up of individual neuron cells. Essentially this amounts to a chain reaction involving neuron cells becoming excited in response to stimuli and passing on the excitation. Memory, however, does not fit with this picture; it has not proven possible to give anything like a reasonable account of memory with the present theory, says Professor Stuart.

Furthermore, memory is a focus of enormous strategic value for the researchers as it touches three realms of organization: biological, physical, and mental. Professor Stuart explains that, to the best of knowledge, memory is mediated by the brain, which is not only a biological system but a physical system as well, and memory itself is important to mental processes. Acceptance of the fact that an animal without



memory cannot learn is evidence of how closely the whole theory of learned mental process is involved with memory. Memory, then, bridges physical, biological, and mental orders all in one, and the fact that it is a longstanding and difficult problem yet to be solved combined to make it an appealing choice for the researchers.

Once their focus was decided, the researchers again carefully chose their path—this time, to prevent them from becoming lost in the enormous body of experimental facts about memory—they began by isolating the undeniable facts about the phenomenon as a whole. They found two: memory is non-local in that it does not seem to be confined to any one particular part of the brain, and it is stable, by defi-

nition something of lasting duration.

The task they set for themselves was to account for these two characteristics. From the outset, it was recognized that likely this would not be possible within the framework of the classical neurophysiological theory, says Professor Stuart—attempts in the past had not been successful. He and his colleagues theorized that the brain must be a mixed physical system, one element of which is well defined by the classical theory, but interacting with another element essentially independent and working in accordance with different physical principles. That the two elements interact would seem obvious as the information gained via the classically-described mechanism is the raw material of



Photaram School animal husbandry program. Below: students using carrells at Sriyabai School



memory, and recall could very likely again involve neuron excitation.

The model at which the researchers eventually arrived added to the classical element a non-classical element described by the quantum theory of physics. By way of explanation, Professor Stuart says that, essentially, anything in nature is accounted for by the quantum theory if one takes analysis to the very basic level which takes into account the motion of electrons and nuclei within atoms; however, most things can be explained without resort to such a very fine level of analysis. He gives the working of an ordinary ferromagnet and supercurrents as examples of phenomena which, although easily observed, are understood only through the quantum theory.

Similarly, the added element in the mixed-system theory depends in an essential way on quantum mechanisms.

Professor Stuart and his colleagues find support for their theory in independent research conducted prior to their mixed-system model being published in a scientific journal in April 1978. This research shows that, contrary to previous expectation, very low levels of external electrical and magnetic fields can modify behavior in animal species up to and including man. Professor Stuart points out that these results cannot be explained by the classical brain theory, but are directly in conformity with the mixed-system theory.

He adds that another testimony to the validity of the Centre's model is the fact that it explains

the electrical currents monitored by the electroencephalograph and other important brain phenomena which the classical theory does not explain.

Once the model had been developed, the researchers were eager to proceed experimentally. And at just that time by what Professor Stuart describes as "extraordinary coincidence," a new window on the brain became available thanks to technical developments that made it possible to view the magnetic fields associated with brain activity.

Previously, electroencephalograms, even though the original of the electrical activity which they record was not accounted for, had provided the only window to the brain. The electrical activity, though, also gives rise to magnetic fields—as does any electrical flow. The magnetic fields, however, are extremely weak—about a billion times as weak as the earth's magnetic field at Edmonton—and two problems had prevented their use in the monitoring of the brain: the recording of such weak signals, and isolating them from the background of the earth's magnetic field and magnetic fields arising from a variety of other circumstances.

The first problem is overcome with a device of recent development called a SQUID—superconducting quantum interference device—which Professor Stuart describes as a magnetic sensor of exquisite sensitivity. Essentially the SQUID creates a superconducting current with minute gaps sensitive to external magnetism; because supercurrents exist only at very low temperatures, the SQUID is encased in a vessel containing liquid helium to bring the operating temperature down to -269°C .

A special device called a second order gradiometer is used to screen out background magnetism. It was built to the specifications of The University of Alberta researchers by the Vancouver firm CTF Systems. The BC company is collaborating in the research to the extent that it is fully absorbing the design and development costs for the instru-

mentation. That type of assistance from a commercial concern is most heartening says Professor Stuart, as it shows that "hard-headed businessmen" see promise in the work and will support a good thing when they see it.

Currently, with the help of volunteers, Professor Stuart and his colleagues are simultaneously recording the electrical and magnetic activity in the brain (the latter by use of magnetoencephalograms) and correlating the two to establish basic information about the brain with a specific emphasis on memory. The testing takes place in a room with copper shielding to keep out radiofrequency interference and the subjects are monitored in a variety of mental situations—quiet rest, listening, and so on.

An extension of the research involves the use of magnetic fields to investigate the activity of nerves, muscles, the heart, and circulatory flow. Professor Stuart says that currently everything we know about physiology, above the biochemical level, is based on electrically mediated observation. The ability to examine the associated magnetic fields constitutes a new window on physiology in general. And to the best of his knowledge it is a window being used by only a handful of other groups in the United States, the USSR and Finland.

Professor Stuart says that the instrumentation can also be used to investigate the effect of electromagnetic fields on biological systems. In fact, he says that an enormous range of work has opened up, much of it a new type of biophysics—not simply the traditional application of physics to a biological system, but the actual investigation of a truly biophysical system.

For Professor Stuart, therein lies much of the excitement of the work. Senior scientists with different specialties—biologists, physiologists, and physicists—are stepping beyond the confines of their discipline to work together. And, should they be successful in their endeavor, they will contribute knowledge fundamental to all science. □

R and D Crisis

The Council of University Presidents has again issued a warning that Canada does not have the scientific resources to implement recent federal government research and development policies. Government proposals to increase expenditures of research and development to 2.5 percent of GNP by 1985 have not been implemented. As a result, the outlook for research and development in the near future remains bleak. The scientists and engineers who will be needed according to the proposals are not being trained, and, in five years, Canada will not have the personnel needed for even greatly reduced domestic and foreign aid research programs.

The universities have a central rôle to play in Canadian R and D through basic applied research

and in the training of scientists. The Council of University Presidents points out that the capacity of the universities to fulfill this rôle is steadily deteriorating as funding in terms of constant dollars diminishes at a time of high inflation in the scientific sphere.

To remedy the situation, the Council recommends that high priority be given to all areas of the research and development community and particularly within the educational sector. Recent proposals should be implemented and coordinated with existing areas of research and development. The creation of an effective industry-university interface is necessary to enable efficient growth in the needed areas. □

University of Alberta Professor Visits China

In July 1978, a delegation of five from the People's Republic of China attended the World Congress of Soil Science held at The University of Alberta. During its week-long stay in Edmonton, the delegation was variously entertained by members of the Canada-China Friendship Society of Edmonton, which in recent years has been co-chaired by Professor A.K. Davis and Mr. Kim Mah. The Chinese were especially impressed by the agricultural and historical displays at the Provincial Museum. The delegation was led by Professor Li Ching-kwei and Professor Shih; the latter is Deputy Director of the Nanking Institute of Soil Science, which works under the general direction of the National Academy of Science of China.

In June 1979, Professor Davis visited Nanking, China, where he was given a tour of the Institute of Soil Science, and was otherwise entertained with great hospitality.

He was presented with a copy of a large volume published in 1978 by this Institute. The book is called *Soils of China* (729 pages); it has many maps and pictures. This valuable scientific work, in Chinese of course, has been given to the Chinese Library in Rutherford South, where it may be consulted during library hours.

The Chinese Library Association is an organization of Chinese students at the University of Alberta. During the last decade, it has built up a collection of more than 6,000 Chinese-language and other publications relating to China. In 1978, the CLA began to publish an annual, *SEACADEMY*, a collection of articles and poems in both Chinese and English on many aspects of Chinese civilization. The second issue of *Seacademy* has just appeared. It is an important contribution to the University community. □

publications

Dimic, M.V. (Comparative Literature) with E. Kushner and the collaboration of J. Ferraté (Comparative Literature and Romance Languages) and R. Struc, eds. *Proceedings of the*

7th Congress of the International Comparative Literature Association. I. Literatures of America: Dependence, Independence, Interdependence. II. Comparative Literature Today: Theory and Practice (Montreal-Ottawa, 1973). 2 vols., Stuttgart: Kunst und Wissen Erich Bieber Verl., 1979.

(with contributions by Edward D. Laing, Francis M. Macri, Uri Margolin, Edward Mozejko and Ursula O. Ulrich.)

Waugh, E.H. and Prithipaul, K.D. (Religious Studies): eds. *Native Religious Traditions*. WLU Press: Waterloo, 1979.

Chemistry Professor is awarded Honorary Degree

Raymond Urgel Lemieux, BSc '43, Professor of Chemistry at The University of Alberta, was honored by the University of Calgary by the award of an honorary degree at Fall Convocation, 2 November 1979.

Dr. Lemieux was born in Lac La Biche in 1920. Having graduated from The University of Alberta in 1943, he attended McGill University where he received his PhD in 1946, and subsequently held a postdoctoral fellowship at Ohio State University.

Dr. Lemieux then held appointments at the University of Saskatchewan and with the National Research Council before joining the staff at the University of Ottawa in 1954 as Professor and Chairman of the Department of Chemistry. After serving as Vice-Dean of the Faculty of Pure and Applied Science in Ottawa, he returned to his Alma Mater in 1961. From 1966 to 1973, Dr. Lemieux was Chairman of the Division of Organic Chemistry.

Dr. Lemieux was awarded the honorary Doctor of Laws degree by the University of Calgary in recognition of the substantial contributions he has made to learning. Dr. Lemieux, who holds



twenty-one patents and has a further six patent applications under consideration, is particularly well known at The University of Alberta for his pioneering work on the development of synthetic blood group antigens. It is largely as a result of his work that the University's research company, Chembiomed Ltd., was established.

In honoring Dr. Lemieux, the University of Calgary joins many other academic and professional institutions in recognising the significance of his research and the value of his contributions to Canadian academic life. □



Women students at the University in 1930-31. Left to right: M. Hunter, L. Walter, E. Moorehouse, A. Stewart, D. Jones, M. Block, H. Faull, D. Hopp, E. Watson, O. Young. Where are they now? If you know,

why not drop the Alumni Office a line? (The photograph was donated by Mrs. D.M. Campbell of Edmonton.)

coming events

The events listing in *Folio* normally refers to off and on campus events for the ten-day period subsequent to publication. For the issue of *Folio* being distributed to Alumni, however, we have extended the listing in the hope that those people who live in the Edmonton and vicinity (over one-third of all the graduates of the University) will find the listings useful. Anyone, whether from Edmonton and vicinity or visiting, is welcome to take advantage of the many events which take place on campus.

Films

Edmonton Film Society

26 November. 8 p.m. "The Wonderful Crook" (Switzerland, 1976). SUB Theatre.

28 November. 8 p.m. "Il Grido" (The Cry) (Italy, 1957). Tory Lecture Theatre.

3 December. 8 p.m. "Sunday Too Far Away" (Austria, 1975). SUB Theatre.

10 December. 8 p.m. "Remember The Night" starring Barbara Stanwyck and Fred MacMurray. Tory Lecture Theatre.

12 December. 8 p.m. "Late Spring" (Japan, 1949). Tory Lecture Theatre.

SUB Theatre

28 November. 7 and 9:30 p.m. "Countess from Hong Kong" starring Marlon Brando and Sophia Loren.

5 December. 7 and 9:30 p.m.

"The Russians Are Coming" starring Carl Reiner and Alan Arkin.

6 December. 7 and 9:30 p.m. "The Maltese Falcon" starring Humphrey Bogart and Mary Astor.

7 December. 7 and 9:30 p.m. "The Thirty-Nine Steps" starring Robert Donat and Madeleine Carroll.

Music

Edmonton Chamber Music Society

23 January. 8 p.m. *The Fine . . . Arts Quartet.*

13 February. 8 p.m. The Alban Berg Quartet. Performances in the SUB Theatre.

Department of Music Explorations VIII

14 January. "An Evening of Mozart."

4 February. "The Musical

Offering."

All performances in Convocation Hall at 8 p.m. Free admission.

Concerts and Special Events *All performances in Convocation Hall unless specified.*

25 November. 8 p.m. Edmonton Youth Orchestra Concert.

27 November. 8 p.m. Voice students in recital.

28 November. 8 p.m. The Concert Choir with guest Japanese Choir.

29 November. 8:30 p.m. Student Composers' Forum. 1-29 Fine Arts.

30 November. 8 p.m. "Coffee Cantata" by J.S. Bach.

2 December. 3 p.m. The Concert Band.

3 December. 8 p.m. The Christmas Concert.

7 December. 8 p.m. The Richard Eaton Singers' Christmas Concert.

8 December. 8 p.m. The Relevé String Quartet.

9 December. 2:30 p.m. Christmas Concert—Talent Education.

10 December. 8 p.m. "Decade 2 Series" presents The University of Alberta String Quartet.

12 December. 8 p.m. Chamber Music Recital.

There will be an admission charge. Tickets available from the Music Office, 3-82, Fine Arts.

Exhibitions

SUB Art Gallery

Until 29 November. "Swiss Photography from 1840 until Today."

4 December. "Annual Christmas Arts and Crafts Sale."

Edmonton Art Gallery

Until 2 December. "Harry Savage," an exhibition of his watercolors of the prairies.

Until 5 December. "Edward Curtis." The BC photographer's exhibit of the life of the Kwakiutl Indians.

Until 16 December. "Alberta Clay Sculpture," a survey of ceramic works by Alberta artists.

Until 16 December. "Aiaa: Reynold," exhibition of wood sculptures.

7 December. "Bryan Chubb," an exhibition of landscapes by this young Edmonton artist.

10 December. "Pictures of a Floating World," an exhibition of prints.

Lectures and Seminars

Division of East European Studies

All lectures will take place at 3:30 p.m. in 311 Athabasca Hall.

30 November. R. Busch of East European Studies and M. Mote of Political Science will speak on "Samizdat and Russian Literature."

4 December. Y. Slavutych of Slavic Languages will talk about "Soviet Language Policy."

15 January. J. Himka of the Canadian Institute of Ukrainian Studies will speak on "Young Radicals and the Idea of Ukrainian Statehood."

22 January. T. Priestly of Slavic

Languages will talk about "Attitudes to Language in Bilingual Austria: One Sociological Experiment."

29 January. L. Kosinski of Geography will talk on "International Tourism in East Central Europe."

12 February. B. Korda of Economics will speak on "Monetary and Pricing Problems in Soviet and East European Foreign Trade."

19 February. E. Mozejko of Comparative Literature will talk on "Intellectual Upheaval: The Role of Dissident Literature and Art in the Soviet Union."

Classics Seminars

Each of the following seminars will be held in 1-8 Humanities Centre at 4 p.m.

Thursday, 22 November. "The Greek Trireme in the 5th and 4th centuries BC," with speaker T.N. Ballin.

Thursday, 29 November. "The Jewellery from Roccagloriosa: Greek or Lucanian," with speaker M. Gualtieri.

Thursday, 7 February "On dodging funerals: Ezra Pound's appreciation of Horace," with B.G.T. Mills.

Faculty of Arts

16 January. 8 p.m. Dr. R. Busch will speak on "Destalinization and Alexander Solzhenitsyn's *Cancer Ward*." L-1 Humanities Centre.

7 February. 8 p.m. Professor P. Robberecht will talk about "Aimez-vous Sarraute? On a variation of *Aimez-vous Brahms*: Two Contemporary French Novelists." L-2 Humanities Centre.

21 February. 8 p.m. Dr. R. Whittinger will talk about "The Image of the Man of Science in Max Frisch's *Homo Faber*." L-2 Humanities Centre.

Botany Seminars

All seminars will be held at 4 p.m. in M-149 Biological Sciences Centre.

28 November. Dr. George Roi will speak on "Sitka Spruce and Western Hemlock Recruitment and survivorship in the Hoh Rain

Forest of Olympic National Park, Washington."

5 December. Dr. Y. Hiratsuka of the Northern Forest Research Laboratory in Edmonton will be visiting speaker.

9 January. Dr. Doug Whitfield will speak on "Bald Eagle Nest Trees."

16 January. Dr. John Owens of the University of Victoria will be guest speaker.

23 January. Dr. Dale Allen will talk about "Carbon Sources for Aquatic Plants."

30 January. Mr. Rick Haag will speak on "Autoecology and Population Biology of Submerged Macrophytes."

6 February. Mr. Bob Swanson will talk about "Forest Cutting for Water Yield: The Marmot Creek Project."

Theatre

Northern Light Theatre

5 December. "Side by Side by Sondheim," a musical toast to Broadway composer Stephen Sondheim.

The Citadel Theatre Shoctor Theatre

12 December. "The Trials of Oscar Wilde."

16 January. "Hey Marilyn."

20 February. "One Tiger To A Hill."

Rice Theatre

5 December. "The Trojan Women."

23 January. "Billy Bishop Goes To War."

Studio Theatre

29 November. 8 p.m. "Misalliance" by Bernard Shaw.

7 to 16 February. 8 p.m. "The Birthday Party."

Performances in 3-146 of the Fine Arts Centre. Telephone 432-2495 for information.

Walterdale Theatre

21 December. 8 p.m. "The Thwarting of Baron Bolligrew."

29 January. 8 p.m. This production will take the form of a

collective creation directed by Kevin Burns. Telephone 462-0721 for information.

Workshop West

Until 2 December. "Of the Fields, Lately."

30 January. "The Adventures of Benny the Beaver in the Third World War." Telephone 463-7378 for information.

Théâtre Français d'Edmonton

Until 2 December. "Le Petit Prince" by A. St.-Exupéry.

18 January. "Des Pommes Pour Eve" by Gavriel Ariout.

22 February. "Les Deux Vierges" by J. Bricker and M. Lasaygues.

All performances at 8 p.m. in the auditorium of Faculté Saint-Jean. Telephone 469-0829 for information.

Intercollegiate Sports

Hockey

28 December. Regina

29 December. Brandon

4 and 5 January. Calgary

25 and 26 January. B.C.

1 and 2 February. Saskatchewan.

15 and 16 February. B.C.

Basketball (Men and Women)

24 November. Saskatchewan

30 November. Regina (Men)

1 December. Brandon (Men)

2 December. Manitoba (Men)

12 January. BC

26 January. Calgary

1 February. Victoria

22 February. Lethbridge

Apology

In the article which appeared in the September issue of *Folio/New Trail*, "Chance meeting brings Professor to newly established University," it was alleged that Barker Fairley was a "native of Tory's England." As several readers have pointed out, however, our first President, Henry Marshall Tory, was not a native of Great Britain but was born in Nova Scotia at Port Shoreham. For this inaccuracy we apologize.

You've told us!

Readers of the September issue of *Folio/New Trail* may recall that the Office of Community Relations sought your opinion on the concept of a combined *Folio/New Trail* and also the name for the publication. While response was limited, our office very much appreciates readers taking time to react and to write to us. We thought that you would find the tables presented below of interest for they contain data used in planning for the future by our *Folio/New Trail* sub-committee, a sub-committee of the Committee on Community Relations chaired by long-time activist alumnus, Bud Arbeau.

Reader Reaction to *Folio/New Trail*

Name	Percentages
<i>Folio/New Trail</i>	55
New Trail	26
<i>Folio</i> (Alumni Edition)	13
Others	6
Total	100

Format	Percentages
Amalgamated <i>Folio/New Trail</i>	89
Former publication New Trail	10
Neither	1
Total	100

Three people were not fussy about name or format, and one person thought the whole thing a waste of time and money.

The majority of respondents felt that the publication was interesting, informative and enjoyable. The main complaint: not sufficient coverage of alumni news. □

Letters

Dear Sir,

Thank you most heartily for those three excellent photographs of the University of Alberta staff in 1912-13. Strange to think today of a University in which the whole staff personally acquainted!

(P.S.) I shall hand one copy to Lovat Dickson, one of your important graduates.

Barker Fairley,
Toronto

Re *Folio/New Trail*,
September 1979:

I wish to comment on two things in this edition of the *Folio*:

(a) "Our University has played some part in Mr. Clark's ultimate success."

I do not understand why the university is taking partial "credit"

for Joe Clark becoming Prime Minister. The University is here as a service to the people; it offers the service, and a student has the choice of entering or not entering. Mr. Clark, in my mind, becoming Prime Minister of Canada has nothing to do with him being a past student of The University of Alberta. Many places could state that line; for example, the kindergarten he went to, his high school, the University of British Columbia, etc.

(b) "So enthusiastic about politics was Mr. Clark that he frequently skipped classes to spend an afternoon in the gallery at the Provincial Legislature."

It seems you approve of students skipping classes. Is this true?

(c) "One of his more famous pranks was the fake murder that was tagged . . ."

By printing this, it seems you think this is funny. If I, for example, staged a murder, or a hold up, or called the fire department to say the University was on fire, would you print this in the *Folio*? I do not find hoaxes such as this funny, and I'm sure the police department doesn't either. Since when do they have the time to waste on running



Community Relations staff placed labels on all 65,000 copies of the last *Folio/New Trail* during a weekend blitz in September.

after "children" (of all ages) playing pranks??? You should be ashamed to print something like this. . . .

(Mrs.) A. Tarnowsky,
Faculty of Home Economics

Ladies and Gentlemen,
Intellectually and sentimentally *Folio* is a real treat. I enjoyed the *New Trail*, as I enjoyed the old *Trail*; but *Folio* gives us pictures of the essentialities of progress that makes the *Trail*

seem merely nice and comradely and chummy. Maybe in that comment I'm indulging in soliloquy, harking back to my own dissatisfactions as editor of *The Trail* for a while many long years ago. In any case, continuing to maintain the personal touch, your accounts of exciting inventions these days make us prouder still to cite ourselves as products of our Alma Mater.

W.R. Rees,
Stouffville, Ont.

alumni notes

27 The Royal Ontario Museum's chief geologist, *Loris Russel, BSc*, is spending the winter counting mice's teeth believed to be 15 million years old. Using a microscope, Dr. Russell is sorting teeth and small bits of bone from more than 15 tons of Saskatchewan gravel, stored in a Toronto warehouse for the last nine years. With his research he hopes to pinpoint man's arrival in North America earlier than 30,000 years ago.

40 *N. Alice Frick, BA*, has retired as technical college lecturer in London, England. She is spending a research year in Canada on an Explorations Program grant from the Canada Council.

41 *George Cummings, BSc*, is responsible for more than \$500 million of building construction in southern Ontario and Toronto, as vice-president of V.K. Mason Construction.

42 What is believed to be the largest flock of polled Dorset sheep in Canada is grazing at the quarantine station at Priddis, Alberta. The select flock of Dorsets was imported by Rivendell Agricultural Enterprises Limited. One of the Rivendell partners is *Bob Francis, MD*.

43 *Bruce Willson, BSc(Eng)*, and *Mrs. Joan (MacDonald) Willson, BA*, were guests of honor during the summer at the annual dinner of the New Forest outpost of the Alumni Association at "Chewton Glen," Highcliffe, Hampshire, UK. The Willsons were en route back to Toronto after competing in the International Seniors' tournament at Gleneagles. Other alumni in



Alumni Fall Homecoming provided the stimulus for Students' Union Councillors 1953-54 to come together in their "Silver" year. An "extraordinary" luncheon meeting was convened at the Faculty Club. Business was minimal, fraternity was feverish. Seen standing (left to right): Karel Puffer (Engineering), Gordon Kay Greene (Musical Directorate), Bob Dingle (NFCUS), Tom Jackson (Secretary), Graham Ross (Treasurer) Bob Edgar (Pharmacy). Seated are (left to right) Catherine Morrish (Wauneita Society), Doug Burns (President), Evelyn Hage (Women's Athletics), Flora Allison (Vice-President), Rita May O'Brien (Household Economics).

attendance were: *Darryl Howard, '67 BSc, Stephanie (Rule) Howard, '64 BA, Dick Hislop, '43 BSc(Eng)*, and *Grace Hislop, Sir Richard Nelson, '34 MD* and *Lady Christine Nelson*.

44 *George W. Carter, BSc(Ag)* has resigned as president of the Northern Alberta Institute of Technology (NAIT) in Edmonton. Mr. Carter's career in industrial arts and technical education spans nearly thirty years.

48 *Gorden A. Heck, BSc*, has retired after over 36 years service in the Royal Canadian Air Force and Canadian Armed Forces. His last appointment was Commander, Canadian Defence

Liaison Staff, Canadian Defence Attaché, Embassy of Canada, Washington, D.C.

49 *Peter McLaren Roberts, BEd*, is serving as Canada's ambassador to Romania.

Arne R. Nielsen, BSc, is director of Rockwell International of Canada Ltd.

50 *Roy L. Millar, BSc(Ag)* is chairman, department of plant pathology, N.Y. State College of Agriculture and Life Sciences at Cornell University. Dr. Millar's research is concerned with the mechanisms of natural disease resistance in forage and cereal plants. His work has led to

discovery of unique chemical substances in alfalfa and birdsfoot trefoil that may have significant rôles in resisting fungal infections.

52 *Nick Chamchuk, BEd*, is coordinator for the newly created office of Educational Exchange and Special Projects, Alberta Education.

Gordon Leslie, BSc, is vice-president, customer relations and planning, Trans-Canada Pipelines Limited.

55 *Ronald P. Havelock, LLB*, is vice-president, general counsel and secretary, Kaiser Oil Ltd.

56 *J.H. Swift, BSc*, is division geologist, Amoco Canada Petroleum Company.

T.W. Fraser Russell, BSc, professor of chemical engineering, University of Delaware, is interim director of the University's Institute of Energy Conversion.

57 *William O. Richmond, BSc*, is chief geologist, Amoco Canada Petroleum Company.

59 *David McLean, BA*, is a member of the board of directors, Canadian National Railways.

Donald Mackenzie, BComm, is chief, air doctrine and operations, National Defence Headquarters, Ottawa.

60 *Graham A. Rendall, BSc*, is geophysical supervisor, Norcen Energy Resources Limited.

M.C. (Mel) Marshall, BSc(Eng), is president, Davis Wire Industries Ltd., Vancouver.

A Calgary physician, *Ralph Gurevitch, MD*, was one of two Canadians granted Fellowship by the Royal College of Obstetricians and Gynecologists in England in 1979.

61 *Elmer Mychaluk, BSc(Eng)*, is manager, Operations, Alberta Natural Gas Company Ltd.

W.B. Foss, BSc(Eng), is a partner with Gellman, Hayward & Partners Ltd., a computer consulting firm in Toronto.

62 *Jim Edwards, BA*, operations manager, CFRN radio, is a member of the Alberta Human Rights Commission.

Donald I. Walker, BSc(Eng), is general manager, production, Norcen Energy Resources Limited.

63 *J.R. (John) Jameson, BSc(Eng)*, general manager, A-S-L Ltd., was part of a team which recently completed a major project in Saudi Arabia five months ahead of schedule. 1,238 kilometres of 48 inch pipe was double jointed and fusion bond epoxy coated for the Trans-Arabian Crude Oil Pipeline running from Adquaiq, near the



The Chancellor, Jean Forest, installs Myer Horowitz as President of the University on 13 September.

east coast to Yanbu, on the Red Sea.

Bill Payne, BA, is director, governmental and public affairs, Dome Petroleum.

64 *Ernest E. Pelzer, BSc(Eng)*, is head of Brunswick Resources Ltd.

66 *W.E.F. Shaw* is a process engineer, Stearns-Roger Canada Ltd.

68 *Ian Hall, BSc(Ag)*, is coordinator, Agricultural Economics Programs, Olds College.

69 *Larry R. Lunn, BPE*, is executive vice-president, Investments and Corporate Planning, First City Trust.

70 *Donald H. Boyd, BComm*, is Controller, Chieftain Development Company.

G.M. (Gerry) Malin, BSc(Eng), is chief engineer (gas supply) Alberta & Southern Gas Co. Ltd.

Kenneth R. Kowalski, GS, is deputy minister, regional transportation services, Alberta Government.

Lynn Ogden, BA, is executive director, Canadian Museums Association.

Nancy Browne, BA, is music therapist, University of Evansville, Indiana.

Peter G. Kevan, GS, is a faculty member, University of Colorado, Colorado Springs.

71 An overview of American literature from the Puritans to the mid-20th century is a new University transfer course in English at Caribou College, B.C., being taught by *David P. Reiter, GS*

72 *Patrick A. Twumasi, GS*, is visiting associate professor, Department of Behavioral Sciences, Johns Hopkins University.

73 *Lyle Wilson, LLB*, has established a law practice in Rocky Mountain House.

Barry Moore, GS, is president, Fraser Valley College, B.C.

76 *Michael Daw, BA*, is first full-time archivist, Red Deer and District Museum.

Martin Fishman, GS, is associate director, Theatre Calgary. Fishman has directed and acted in numerous professional productions for both stage and television in Alberta and Ontario.

78 *Jim Barton, BPE*, has joined the physical education staff, Selkirk College, B.C.

Phil Hamel, BPE, is activities officer, Olds College.

Helen Madill, GS, is chairman, department of occupational therapy, Faculty of Rehabilitation Medicine, The University of Alberta.

79 *Clark Jantzie, BSc(Pharm)*, is with Thorp's Western Drug Mart, Wainwright.

Marianne Nielsen, GS, is coordinator, planning and evaluation, Alberta Native Counselling Services.

Albert A. Robinson, LLB, is practising law in Stony Plain.

Greg J. Frobbs, DDS, has established a dental practice in Oyen.

Bernie Kreiner, BComm, is involved in updating a transit study commissioned by the town of Fort McMurray.

Elizabeth C. Palmer, BEd, is teaching in Fort Saskatchewan.

Marcelle (Kiehlbauch) West is teaching at Fulham School, Edson.

Joyce Rushton, BSc, is with the department of microbiology, and is engaged in research at The University of Alberta.

Donald P. Schurman, GS, is vice president, operations, Extencicare Ltd., Toronto.

Elizabeth M. Dawe, BA, is with CUSO in Gombi, Nigeria.

Brenda Sukkel, BSc, is a DHI technician, Wetaskiwin.

Kathy (Innocent) Tabler, BEd, is a member of the Evansburg High School staff.

Connie Johnson, BEd, is teaching bilingual French kindergarten, Grace Martin School, Edmonton.

In Memoriam

Alfred M. Rehwinkel, '16 BA
Sylvan Oswald Hillerud, '20
BSc(Ag)

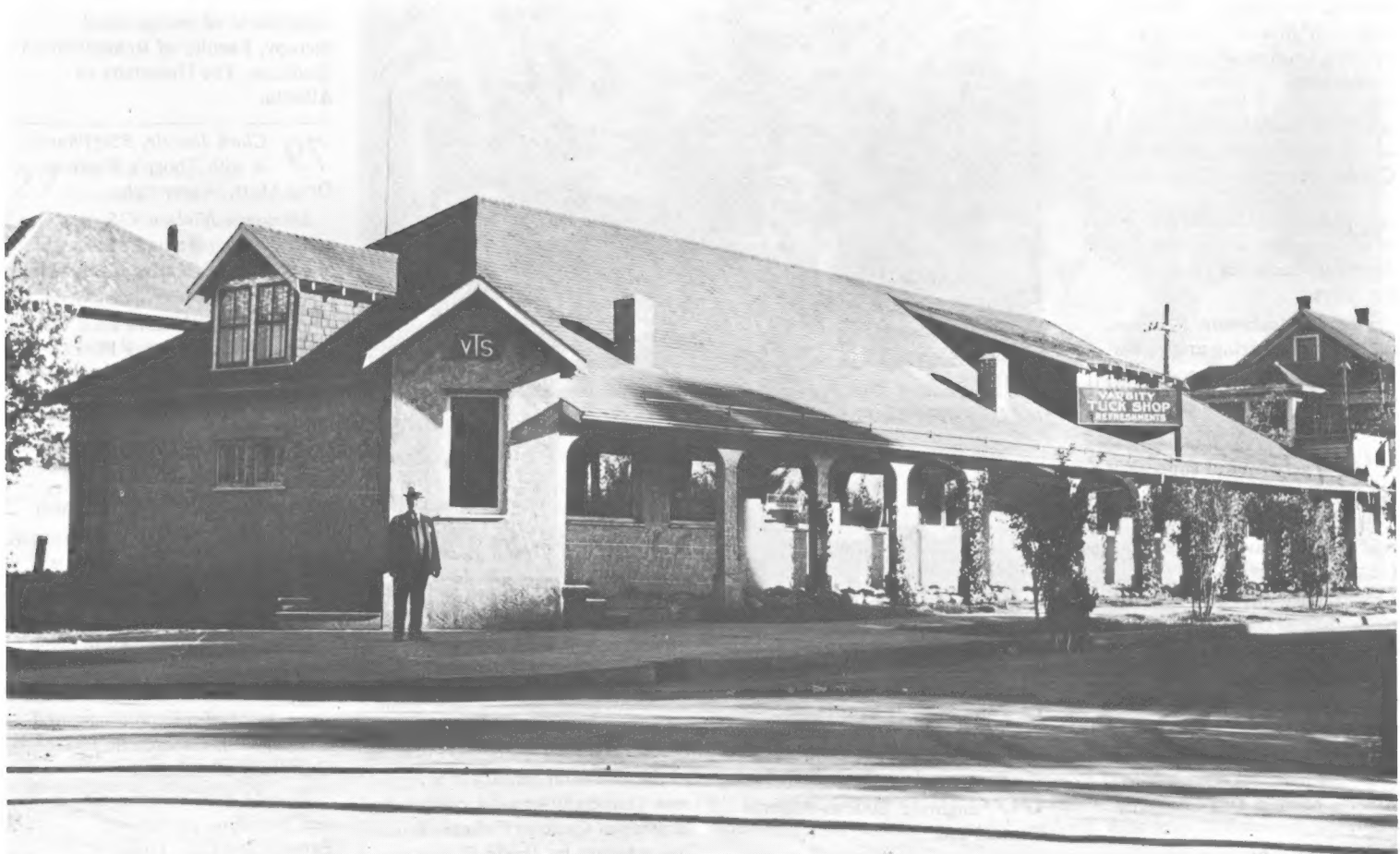
Doreen (Ritchie) Smith '36
BSc(Nu)

Richard L. Gordon, '48 BA
George Gibb, '52 DDS
Robert Jull, '60 BSc

75th Anniversary

The University of Alberta will celebrate the 75th anniversary of its academic offerings in 1982-83. Alumni, staff, and students are invited to participate in the planning of the Jubilee celebrations by submitting ideas for special projects and events.

Please send your ideas to:
Dr. W.A. Presling, Chairman
75th Anniversary Policy Group
420 Athabasca Hall
The University of Alberta.
T6G 2E8



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